

IBM OMEGAMON and Tivoli Management  
Services on z/OS

# OMEGAMON Shared Documentation



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# Contents

<b>Introduction to OMEGAMON shared documentation .....</b>	<b>10</b>
Downloadable PDFs .....	10
OMEGAMON products .....	11
Tivoli Management Services on z/OS .....	11
Individual OMEGAMON products .....	12
Additional OMEGAMON components .....	12
Suites .....	13
<b>What's new in OMEGAMON® .....</b>	<b>14</b>
What's new in OMEGAMON shared components .....	14
What's new in Tivoli Management Services on z/OS configuration software .....	22
PTF UJ98936 for APAR OA68919 (1Q26) .....	22
PTF UJ98753 for APAR OA68536 (4Q25) .....	22
PTF UJ98473 for APAR OA68534 (4Q25) .....	23
PTF UJ98129 for APAR OA68463 (3Q25) .....	25
PTF UJ97989 for APAR OA68360 (3Q25) .....	26
PTF UJ97760 for APARs OA67927, OA68134 (3Q25) .....	27
PTF UJ97474 for APAR OA67992 (2Q25) .....	28
PTF UJ97076 for APAR OA67703 (2Q25) .....	29
PTF UJ96866 for APAR OA67573 (1Q25) .....	30
PTF UJ96722 for APAR OA67212 (1Q25) .....	31
PTF UJ96587 for APAR OA67334 (1Q25) .....	31
PTF UJ96496 for APAR OA67208 (4Q24) .....	32
PTF UJ96215 for APAR OA67130 (4Q24) .....	33
PTF UJ95792 for APAR OA66704 (3Q24) .....	34
PTF UJ95574 for APAR OA66051 (2Q24) .....	35
PTF UJ95019 for APAR OA66050 (1Q24) .....	36
PTF UJ94732 for APAR OA64188 (1Q24) .....	37
PTF UJ94529 for APAR OA65933 (1Q24) .....	39
PTF UJ94312 for APAR OA65216 (4Q23) .....	39
PTF UJ93992 for APAR OA65613 (4Q23) .....	40
PTF UJ93804 for APAR OA65222 (3Q23) .....	41
PTF UJ92865 for APAR OA64870 (3Q23) .....	42
PTF UJ93077 for APAR OA64681 (2Q23) .....	42
PTF UJ92421 for APAR OA64052 (1Q23) .....	43
PTF UJ92101 for APAR OA63966 (1Q23) .....	44
PTF UJ09749 for APAR OA64006 (4Q22) .....	45
PTF UJ09486 for APAR OA63790 (4Q22) .....	45
PTF UJ09334 for APAR OA63566 (3Q22) .....	46
PTF UJ09236 for APAR OA63621 (3Q22) .....	46
PTF UJ08884 for APAR OA63423 (3Q22) .....	46
PTF UJ08674 for APAR OA63103 (2Q22) .....	47
PTF UJ08515 for APAR OA62832 (2Q22) .....	48
PTF UJ08174 for APAR OA63060 (2Q22) .....	49
PTF UJ08103 for APAR OA62792 (1Q22) .....	49
PTF UJ07786 for APAR OA62833 (1Q22) .....	49
PTF UJ07639 for APAR OA62526 (1Q22) .....	50
What's new in OMEGAMON products and components .....	50
<b>Where to find information .....</b>	<b>51</b>
OMEGAMON product codes and documentation .....	51
Related links .....	52
Tivoli Management Services shared component codes and documentation .....	52
Other product/agent codes and documentation .....	52
Related links .....	53
<b>OMEGAMON products and IBM Tivoli Management Services on z/OS .....</b>	<b>54</b>
Tivoli Management Services components .....	54
Tivoli Enterprise Monitoring Server .....	55
OMEGAMON® Enhanced 3270 user interface .....	55
Tivoli Enterprise Portal Server and clients .....	55
Monitoring agents .....	56
Tivoli Data Warehouse .....	56
TMS:Engine .....	56
Event synchronization component .....	57
Tivoli Enterprise Portal Server extended services .....	57
Tivoli® Enterprise Monitoring Automation Server, Registry Services, and OSLC clients .....	57
IBM® Dashboard Application Services Hub, dashboard applications, Tivoli® Authorization Policy Server, and IBM Cognos® .....	58
Tivoli Enterprise Monitoring Server REST services .....	58

IBM Z® OMEGAMON® AI Insights .....	58
IBM Z® OMEGAMON® Web UI .....	59
OMEGAMON shared components .....	59
Interoperability and integration with other products .....	60
<b>Getting started .....</b>	<b>61</b>
Quick Start Guide .....	61
OMEGAMON product overview .....	61
Step 1: Access the software and documentation .....	61
Step 2: Review the product components and installation steps .....	62
Step 3: Perform the SMP/E installation of the components that run on z/OS .....	64
Step 4: Configure components and products on z/OS .....	64
Step 5: Complete the setup of the z/OS environment .....	65
Step 6: Install the distributed components .....	65
Step 7: Set up user security .....	65
Step 8: Start all components and test your installation .....	66
Step 9: Configure historical data collection .....	66
More information .....	67
Prerequisites and packaging .....	67
Pre-installation requirements and checklist .....	67
Software and hardware prerequisites .....	67
Installation packages .....	67
<b>Deployment guides.....</b>	<b>70</b>
First time deployment guide .....	70
FTU installation and configuration tasks .....	71
Cross-platform quick deployment guide for OMEGAMON .....	80
About the scenario in this guide .....	80
Background knowledge .....	81
Topology .....	82
Installation and configuration .....	83
Completing the configuration for the OMEGAMON AI for JVM agent .....	105
Starting the monitoring system .....	105
Extension guide for OMEGAMON .....	107
About the scenario in this guide .....	107
Topology .....	107
RTE configuration .....	108
Completing the configuration for the OMEGAMON AI for JVM agent .....	119
Starting the monitoring system .....	120
<b>Planning.....</b>	<b>122</b>
Planning a first deployment .....	122
Decision 1: Why to install into a shared CSI .....	122
Decision 2: What types of runtime environments to set up .....	123
Decision 3: Where to install your monitoring servers .....	131
Decision 4: How to configure your monitoring servers .....	134
Decision 5: Where to configure your monitoring agents .....	145
Decision 6: How to set up communications between components .....	147
Decision 7: Whether and where to use variables .....	153
Decision 8: Whether to collect historical data and how to manage it .....	154
Decision 9: Which security options to enable .....	157
Decision 10: Which user interfaces to use .....	161
What to do next .....	165
Planning an upgrade or installation .....	165
Version requirements .....	165
Basic upgrade requirements .....	167
Before you begin .....	169
Products in a mixed environment .....	171
Autonomous agent support .....	173
Tivoli Management Services V6.3.x component interoperability .....	173
<b>Installing.....</b>	<b>174</b>
Job Generator (JOBGEN) utility .....	174
The JOBGEN utility process .....	175
Case 1: Create a new SMP/E environment and install products with JOBGEN .....	175
Case 2: Install additional products in an existing SMP/E environment with JOBGEN .....	181
Program Directories .....	190
<b>Upgrading .....</b>	<b>194</b>
Upgrade order .....	194
Backing up your environments .....	194
SMP/E installation .....	195
Cloning an SMP/E environment for a staged upgrade of existing runtime environments .....	195
Creating a new SMP/E environment for a staged upgrade of new or existing runtime environments .....	204
Upgrade scenarios .....	205
<b>Configuring products and components on z/OS .....</b>	<b>213</b>
What's new .....	213

Best practices for configuring OMEGAMON products and components.....	213
PARMGEN or Configuration Manager? .....	213
Best practices for configuration.....	213
Configuration Manager .....	214
Products supported by Configuration Manager.....	214
Introduction to Configuration Manager.....	215
Comparison with PARMGEN .....	216
Preparing to use Configuration Manager .....	220
Defining the OMEGAMON® subsystem to z/OS®.....	221
Creating your first, minimal runtime environment.....	222
Creating or updating a runtime environment .....	229
Batch interface.....	236
Parameters.....	278
Runtime environment definition (RTEDEF) library.....	319
Runtime members .....	329
Communication between monitoring components .....	330
Variables in parameter values .....	334
Setting up security exits in your runtime environment.....	336
Using override embed members in Configuration Manager.....	337
Deploying remote runtime environments.....	341
Using SMP/E target library copies .....	352
How-tos using Configuration Manager.....	356
Troubleshooting.....	365
Messages.....	373
Parameter Generator (PARMGEN).....	413
Before you begin.....	413
The PARMGEN configuration method .....	414
Configuration workflow .....	428
Replicating configured runtime environments.....	477
How-tos using PARMGEN .....	481
Rectifying your PARMGEN configuration .....	516
Completing the configuration outside the configuration software.....	522
APF-authorize the runtime load libraries.....	522
Complete the configuration of a Tivoli Enterprise Monitoring Server.....	523
Complete the configuration for the OMEGAMON® subsystem.....	554
Complete the configuration for OMEGAMON® monitoring agents and components .....	556
Install language support .....	557
Verify the configuration .....	557
Enable security.....	558
Complete configuration of the OMEGAMON enhanced 3270 user interface.....	564
(Optional) Enable maintenance of the historical data store .....	575
(Optional) Configure historical data collection.....	576
(Optional) Configure situation status streaming .....	577
<b>Securing communications for Tivoli Management Services on z/OS components and OMEGAMON products.....</b>	<b>578</b>
Where to find information about securing communications .....	578
Initial setup to activate AT-TLS.....	578
Define security authorization for Policy Agent.....	579
(Optional) Define Common INET PFS .....	580
Configure Policy Agent .....	581
Start and stop Policy Agent.....	582
Display policies .....	582
Update TCP/IP profile.....	582
Setting up AT-TLS for Tivoli Management Services on z/OS components .....	583
(If needed) Define security authorization for OMEGAMON started tasks .....	584
Create digital certificates and key ring using RACF .....	585
Define AT-TLS policy rules .....	586
Setting the Hypertext Transfer Protocol for OMEGAMON products.....	591
Update runtime environment to use HTTPS.....	591
Update runtime environment to use HTTP.....	593
Update runtime environment to disable HTTP and HTTPS .....	594
Setting a secure Transmission Control Protocol (TCP) for OMEGAMON products .....	595
Update runtime environment to use secure TCP communication (Configuration Manager).....	595
Update runtime environment to use secure TCP communication (PARMGEN) .....	598
Setting the Internet Protocol (IPv4, IPv6) for OMEGAMON products .....	601
Update Internet Protocol in runtime environment (Configuration Manager) .....	601
Update Internet Protocol in runtime environment (PARMGEN) .....	604
Managing multiple network interfaces.....	609
<b>Scenarios .....</b>	<b>612</b>
Implementation scenarios .....	612
Scenario QCF01: Configuring a full RTE with a high-availability hub monitoring server .....	615
Scenario QCF02: Configuring a full RTE with a static hub and variables enabled.....	627
Scenario QCF03: Creating a sharing-with-base runtime environment with a remote monitoring server and variables enabled .....	637
Scenario QCF04: Configuring a full RTE with a static hub monitoring server .....	646
Scenario QCF05: Configuring a full RTE with a remote monitoring server .....	655

Scenario QCF06: Configuring a full RTE with a remote monitoring server and variables enabled .....	664
Scenario QCF07: Creating a sharing-with-base runtime environment with a remote monitoring server ..	674
Scenario QCF08: Creating a sharing-with-SMP/E runtime environment with a remote monitoring	
server .....	683
Scenario QCF09: Creating a sharing-with-SMP/E runtime environment with a remote monitoring server	
and variables enabled .....	692
Scenario QCF10: Configuring a sharing-with-SMP/E runtime environment with a hub monitoring	
server .....	702
Scenario QCF12: Creating a sharing-with-base runtime environment with a hub monitoring server .....	710
Scenario QCF13: Creating a full runtime environment with agents only and variables enabled .....	719
Scenario QCF14: Creating a full runtime environment with agents only .....	729
Scenario QCF15: Creating a sharing-with-base runtime environment with agents only and variables	
enabled .....	739
Scenario QCF16: Creating a Sharing-with-base runtime environment with agents only .....	749
Scenario QCF17: Creating a Sharing-with-SMP/E runtime environment with agents only and variables	
enabled .....	759
Scenario QCF18: Creating a Sharing-with-SMP/E runtime environment with agents only .....	769
Scenario QCF19: Creating a Sharing-with-SMP/E runtime environment with a hub monitoring server and	
variables enabled .....	779
Scenario QCF20: Creating a Sharing-with-SMP/E runtime environment with a hub monitoring server ...	789
Scenario QCF21: Creating a Sharing-with-base runtime environment with a hub monitoring server and	
variables enabled .....	798
Scenario QCF22: Creating a Sharing-with-SMP/E runtime environment with a hub monitoring server and	
variables enabled .....	808
SMP/E maintenance and upgrade scenarios .....	818
Scenario SMPE01: Applying maintenance to an existing runtime environment without changing the	
configuration .....	818
Scenario SMPE02: Applying SMP/E maintenance with configuration changes to an existing RTE and using	
IBM-supplied configuration defaults for new features .....	820
Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and	
overriding the IBM-supplied configuration defaults .....	823
Scenario SMPE04: Upgrading an existing runtime environment with no configuration changes .....	826
Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-	
supplied configuration defaults .....	828
Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults .....	830
Scenario SMPE07: Staging an upgrade using a cloned environment .....	833
Runtime environment reconfiguration scenarios .....	839
Scenario RTE01: Adding a new product to an existing PARMGEN runtime environment .....	839
Scenario RTE02: Upgrading a single product or component in an existing runtime environment .....	842
Scenario RTE03: Changing parameters in an RTE .....	844
Scenario RTE04: Converting a hub monitoring server to a remote .....	847
Scenario RTE05: Deleting a product or component from a runtime environment .....	852
Scenario RTE06: Deleting a runtime environment .....	854
Deployment scenarios .....	855
Cloning an existing PARMGEN runtime environment .....	855
Cloning an existing runtime environment .....	868
Cloning an existing environment with system variables enabled .....	876
<b>How-tos .....</b>	<b>885</b>
How to: Write a message to the console for a situation .....	885
How to: Create an HTTP request for a situation .....	888
<b>OMEGAMON product interfaces.....</b>	<b>890</b>
OMEGAMON® enhanced 3270 user interface.....	890
Product overview .....	890
Workspaces .....	904
User Preferences .....	936
Customization .....	942
Administration.....	973
Troubleshooting.....	1005
Reference .....	1023
OMEGAMON multi-tenancy .....	1061
Overview of OMEGAMON multi-tenancy.....	1061
Installation .....	1065
Configuration .....	1065
Working in multi-tenancy mode .....	1077
Troubleshooting.....	1078
IBM Z® OMEGAMON® Web UI .....	1080
Tivoli Enterprise Monitoring Server REST services .....	1080
Accessing data using Tivoli Enterprise Monitoring Server REST services .....	1081
Securing TEMS REST services.....	1081
Accessing TEMS REST services OpenAPI document.....	1092
How to specify requests to the TEMS REST services .....	1092
IBM Z® OMEGAMON® Data Provider .....	1126
Stream situation status updates to OMEGAMON Data Provider .....	1126
IBM Z Service Management Explorer .....	1128
Introduction to IBM Z Service Management Explorer .....	1128
Installation and Configuration .....	1130

Getting started using IZSME .....	1148
Using the Navigator .....	1149
Using workspaces .....	1151
Take Action from the Navigator, Situations and Workspaces .....	1154
Troubleshooting.....	1155
IZSME® Messages .....	1156
Tivoli Enterprise Portal.....	1186
OpenWebStart.....	1186
Open Web Launch.....	1186
<b>Reference.....</b>	<b>1195</b>
Persistent data store.....	1195
Topics: .....	1195
Persistent data store V1 (PDS V1) .....	1195
Persistent data store V2 (PDS V2) .....	1222
Variables in PARMGEN configuration .....	1245
Types of variables supported.....	1246
Runtime parts in variables mode.....	1246
Parameters eligible to use variables .....	1247
Parameters ineligible to use variables .....	1248
Post-configuration steps for variables in started tasks .....	1249
Use of variables with jobcards.....	1250
Submission of PARMGEN batch jobs if system variables are enabled .....	1250
Enabling variable support .....	1251
Predefining and managing OMEGAMON® started tasks .....	1252
Workload Manager (WLM) settings for the OMEGAMON® tasks .....	1254
Product codes.....	1256
Common parameters .....	1257
Overview .....	1257
Common agent parameters (Kpp and KAG) .....	1261
Global (GBL) parameters.....	1312
Runtime environment (RTE) parameters.....	1332
Tivoli Enterprise Monitoring Server (KDS) parameters .....	1372
Enhanced 3270 user interface parameters.....	1437
What's new (previous updates).....	1448
What's new in Monitoring Configuration Manager (previous updates).....	1448
What's new in PARMGEN (previous updates).....	1449
What's new in OMEGAMON products (previous updates).....	1508
What's new in the OMNIMON Base (previous updates) .....	1509
What's new in the OMEGAMON enhanced 3270 user interface (previous updates) .....	1514
<b>Messages .....</b>	<b>1519</b>
Introduction to messages.....	1519
Messages for z/OS® components.....	1520
CI messages.....	1524
CND messages .....	1549
CS and CT messages .....	1562
ETE messages .....	1572
IA messages.....	1597
IN messages .....	1607
KBB messages .....	1613
KCN messages .....	1614
KDH messages.....	1621
KLB messages.....	1622
KLE messages.....	1622
KLU messages.....	1630
KLV messages .....	1646
KLX messages .....	1910
KMV messages.....	1915
KOB messages .....	1941
KPD and KFAPD messages .....	2033
KPQ messages .....	2037
KRAO messages.....	2062
KSC messages.....	2063
KSD messages.....	2064
LSC messages.....	2074
OB messages.....	2074
OM messages.....	2225
Messages shared by distributed and z/OS® components .....	2298
KDS messages.....	2299
KFA messages.....	2309
KHD messages .....	2339
KMS messages .....	2340
KO4 messages .....	2341
KOM messages.....	2377
KRAA messages.....	2379
KRA messages .....	2382
TMS:Engine codes.....	2386

TMS:Engine abend and snap dump codes.....	2386
TMS:Engine message route codes .....	2387
TMS:Engine sense data format.....	2388
IBM Tivoli Monitoring product codes.....	2389
ETE™ return codes and sense codes .....	2394
Return codes .....	2394
Sense codes .....	2395
z/OS® status codes and return codes .....	2412
KDCNCnnn message status codes .....	2412
KSM and KIB return codes .....	2418
KFA return codes .....	2421
KMS return codes.....	2422
<b>Notices.....</b>	<b>2423</b>
Trademarks.....	2424
Privacy policy considerations .....	2424
<b>Index .....</b>	<b>2425</b>

## Note

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Before using this information and the product it supports, read the information in [“Notices” on page 2423](#).

## Edition notice

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# Introduction to OMEGAMON shared documentation

The *OMEGAMON shared documentation* contains information that applies to [OMEGAMON® products](#) that use Tivoli® Management Services on z/OS®, or the configuration software that supports it.

This documentation set covers the following information:

- Overview of the Tivoli Management Services components and OMEGAMON shared components. These components include the Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Portal Server, TMS:Engine, and OMNIMON Base.
- Planning, installing, upgrading, and securing Tivoli Management Services components and OMEGAMON shared components
- Configuring OMEGAMON® products and their common framework components on z/OS® using the Tivoli Management Services on z/OS configuration tools:
  - [IBM Z Monitoring Configuration Manager](#) (Monitoring Configuration Manager or Configuration Manager)
  - [Parameter Generator](#) (PARMGEN)
- Configuring and using the product interfaces, including the user guides for the following interfaces:
  - [OMEGAMON® enhanced 3270 user interface](#)
  - [IBM Z Service Management Explorer](#)
  - [“Tivoli Enterprise Monitoring Server REST services” on page 1080](#)
- Messages for the z/OS®-based components of the IBM® OMEGAMON products and Tivoli® Management Services

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## Downloadable PDFs

This topic provides a list of PDF files that are available for download.

Title	Description
<a href="#"><u>IBM® OMEGAMON Shared Documentation</u></a>	This PDF includes all of the OMEGAMON shared documentation content.  <b>Note:</b> This PDF contains planning, upgrading, deployment, configuration (including parameter reference), troubleshooting, and other reference content and replaces the individual PDFs that were previously available.
<a href="#"><u>IBM Z Monitoring Configuration Manager</u></a>	Read this guide to understand the Configuration Manager configuration method and the steps for configuring products and components on z/OS.
<a href="#"><u>IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide</u></a>	Read this guide to understand the Tivoli Enterprise Portal, a distributed user interface for products using Tivoli Management Services.
<a href="#"><u>IBM® OMEGAMON Monitoring Agents on z/OS Quick Start Guide</u></a>	Read this guide to understand the process for installing an OMEGAMON monitoring agent on z/OS.
<a href="#"><u>IBM® OMEGAMON Enhanced 3270 User Interface Guide</u></a>	Read this guide to understand the OMEGAMON enhanced 3270 user interface, an ISPF-based user interface for the OMEGAMON monitoring products.

Title	Description
<a href="#"><u>OMEGAMON Multi-tenancy Guide</u></a>	Read this guide to understand OMEGAMON multi-tenancy mode, a feature that allows the monitoring of distinctly separate sets of resources in the OMEGAMON enhanced 3270 user interface.
<a href="#"><u>IBM Z Service Management Explorer User Guide</u></a>	Read this guide to understand IBM Z Service Management Explorer (IZSME), a web-based interface for the OMEGAMON monitoring products.
<a href="#"><u>IBM® OMEGAMON Messages</u></a>	Use this guide to review messages for the z/OS®-based components of the IBM® OMEGAMON products and Tivoli® Management Services, such as the Tivoli Enterprise Portal Server, the Tivoli Enterprise Monitoring Server, OMNIMON Base, and the Tivoli Monitoring Services:Engine (TMS:Engine).
<a href="#"><u>Program Directory for IBM Tivoli Management Services on z/OS 6.4.0</u></a>	This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM Tivoli Management Services on z/OS.
<a href="#"><u>Program Directory for IBM Z Service Management Explorer 6.4.0</u></a>	This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM Z Service Management Explorer.

For additional program directories of the OMEGAMON family products and suite products, see [Program Directories](#).

## OMEGAMON products

This topic provides a list of the latest OMEGAMON products, product-extending components, and suites.

The *OMEGAMON shared documentation* contains information that applies to OMEGAMON® products that use IBM® Tivoli® Management Services on z/OS®. OMEGAMON products can be stand-alone or part of a suite.

### Tivoli Management Services on z/OS

The OMEGAMON suite of products use the Tivoli® Management Services on z/OS infrastructure, which provides security, data transfer and storage, notification mechanisms, user interface presentation, and communication services.

The latest version is Tivoli Management Services on z/OS 6.4, which includes the browser-based [IBM Z OMEGAMON Web UI](#) and Grafana OSS Edition 12.1.1. [IBM Z OMEGAMON AI Insights 2.2](#) is also included.

For information about additional components, such as [Tivoli Enterprise Monitoring Server REST services](#), see [“Tivoli Management Services components” on page 54](#).

#### Important:

- Tivoli Management Services on z/OS 6.3.0 Fix Pack 6 (or later) is a prerequisite for the OMEGAMON products and suites listed in this topic.
- Any OMEGAMON product or suite that offers artificial intelligence and machine learning capabilities requires [IBM Z OMEGAMON AI Insights](#).

For more information, see the Program Directory for the respective product or suite.

**Update to License Information for IBM Tivoli Management Services on z/OS 6.4:** In the *License Information* document for this product, *Limited Use Separately Licensed Code* section, the Program below is hereby included in the “Named Program(s) and/or Services(s)” list:  
5698-W37 IBM Z OMEGAMON AI for Db2

## Individual OMEGAMON products

- [IBM Z® OMEGAMON® AI for CICS 6.1](#)
- [IBM Z® OMEGAMON® AI for Db2 6.1](#)
- [IBM OMEGAMON® for IMS™ on z/OS® 5.5](#)
- [IBM Z® OMEGAMON® AI for JVM, 6.1](#)
- [IBM OMEGAMON® for Messaging on z/OS® 7.5](#)
- [IBM OMEGAMON® for Networks on z/OS 5.5](#)
- [IBM Z® OMEGAMON® AI for Networks 6.1](#)
- [IBM Z OMEGAMON® AI for Storage 6.1](#)
- [IBM OMEGAMON® for z/OS® 5.5](#)
- [IBM Z® OMEGAMON® AI for z/OS® 6.1](#)
- [IBM OMEGAMON® Dashboard Edition on z/OS® 5.5](#)
- [IBM Z® OMEGAMON® Integration Monitor 5.6<sup>1</sup>](#)

**Note:** Additional products and agents are also managed under the Tivoli Management Services infrastructure. For more information, see [“Other product/agent codes and documentation” on page 52](#).

## Additional OMEGAMON components

The following components extend the capabilities of the OMEGAMON products:

- [IBM Z OMEGAMON AI Insights 2.2](#). This component provides an artificial intelligence and machine learning model for processing OMEGAMON key performance indicators that can deliver insights into future performance. OMEGAMON AI Insights is required for any product that offers artificial intelligence and machine learning features.  
IBM Z OMEGAMON AI Insights is available as a container image included with IBM Tivoli Management Services on z/OS 6.3.3 and later. IBM Z OMEGAMON AI Insights 2.2 is included in IBM Tivoli Management Services on z/OS 6.4.
- [IBM Z® OMEGAMON® Web UI 2.1](#). This component is a browser-based graphical user interface for monitoring and managing z/OS systems. IBM Z OMEGAMON Web UI uses Grafana dashboards to provide visualization and analysis of performance data gathered by OMEGAMON monitoring agents. This user interface also includes administrative functions that are both stand-alone and integrated with the dashboard experience. IBM Z OMEGAMON Web UI requires the IBM Z OMEGAMON Data Requester component, a Grafana application plug-in that provides customizable starter dashboards.  
IBM Z OMEGAMON Web UI and Grafana OSS Edition 12.1.1 are included with IBM Tivoli Management Services on z/OS 6.4 and later.  
  
IBM Z OMEGAMON Data Requester is included with IBM Tivoli Management Services on z/OS 6.3.4 and later. Use of IBM Z OMEGAMON Data Requester requires Tivoli Management Services on z/OS APAR OA67404 (PTF UJ96676).
- [IBM Z OMEGAMON Data Provider 1.1](#). This component makes data from z/OS available to various destinations. Typically, the data consists of metrics or events from z/OS subsystems or applications, and the destinations are analytics platforms that analyze that data.

<sup>1</sup> This product is available only as a component product in IBM® Z Monitoring Suite; IBM® Z Integration for Observability; or IBM Z® Service Management Suite 2.3 and later.

## Suites

OMEGAMON products are available in or complemented by the following suites. You can view the list of component products for each suite using the provided links.

- [IBM Z Monitoring Suite 2.3.0](#)
- [IBM Z Service Management Suite 3.3.0](#)
- [IBM Z Integration for Observability 6.3.0](#). This suite delivers data integration and user interfaces for use with stand-alone OMEGAMON agents. It does not include stand-alone OMEGAMON products.
- [IBM Z Storage Management Suite 3.1](#)

# What's new in OMEGAMON®

The topics in this section describe recent updates.

**Note:** Previous updates are described in [“What's new \(previous updates\)”](#) on page 14.

## What's new in OMEGAMON shared components

This topic summarizes the recent updates in the OMEGAMON shared documentation for various OMEGAMON shared components.

Description	Related APARs
With situation status streaming, you can forward situation status updates from your OMEGAMON® monitoring agents to third-party analytics platforms, such as Instana, Splunk, Elastic Stack, Prometheus, Grafana, and others. For more information, see <a href="#">(Optional) Configure situation status streaming</a> and <a href="#">“Stream situation status updates to OMEGAMON Data Provider”</a> on page 1126.	OA68099 OA68536
Starting with Tivoli® Management Services on z/OS® 6.4, IBM Z® OMEGAMON® Web UI, a browser-based graphical user interface that uses Grafana® dashboards, is included as a component. Also included is Grafana OSS Edition 12.1.1. For more information about the new interface, see <a href="#">“IBM Z OMEGAMON Web UI”</a> on page 59.	—
Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows: <ul style="list-style-type: none"><li>• With the PUT /situations endpoint, you can now in one request create multiple situations or import multiple existing situations from one runtime environment into a different runtime environment. For more information, see <a href="#">“Creating situations”</a> on page 1106.</li><li>• With the PUT /situations endpoint, you can no longer replace existing situations. If you want to update existing situations, use the PATCH /situations endpoint. For more information, see <a href="#">“Editing situations”</a> on page 1098.</li><li>• When deleting a situation or a history collection configuration, in addition to the required <b>NAME</b> parameter, now you must also provide the timestamp when the situation or history collection configuration was last modified (the <b>LSTDATE</b> parameter). This timestamp value is used as a locking mechanism to prevent multiple requests aimed at the same situation or history collection configuration. For more information, see <a href="#">“Deleting a situation”</a> on page 1116 and <a href="#">“Deleting a history collection configuration”</a> on page 1097.</li></ul>	OA68566

Description	Related APARs
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>• You can now create new Take Action definitions and edit existing Take Action definitions. To control permissions, you must use SAF resource profiles. For more information, see <a href="#">“Creating Take Action definitions” on page 1123</a>, <a href="#">“Editing Take Action definitions” on page 1121</a>, and <a href="#">“Define SAF profiles to control Take Action permissions” on page 1089</a>.</li> <li>• When using the GET /spec endpoint, the OpenAPI document is returned in YAML format. For more information, see <a href="#">“Accessing TEMS REST services OpenAPI document” on page 1092</a>.</li> <li>• When deleting a Take Action definition, in addition to the required <b>NAME</b> parameter, now you must also provide the timestamp when the Take Action definition was last modified (the <b>LSTDATE</b> parameter). This timestamp value is used as a locking mechanism to prevent multiple requests aimed at the same Take Action definition. For more information, see <a href="#">“Deleting a Take Action definition” on page 1126</a>.</li> <li>• The response body for the /system/actions endpoint has been aligned with the other endpoints. The <b>KEY</b> and the <b>NAME</b> parameter names have been updated. The parameter that was previously displayed as <b>KEY</b> in the response body is now displayed as <b>NAME</b>. And the parameter that was previously displayed as <b>NAME</b> is now displayed as <b>FULLNAME</b>.</li> </ul>	<p>OA68441 OA68455</p>
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>• The following updates have been made to the PUT /situations endpoint, which you use to create or replace a situation, and the PATCH /situations endpoint, which you use to edit a situation: <ul style="list-style-type: none"> <li>◦ When creating, replacing, or editing a situation, now all parameters must be specified in the request body, including the <b>NAME</b> parameter and the <b>LSTDATE</b> parameter for editing a situation. For more information, see <a href="#">“Creating situations” on page 1106</a> and <a href="#">“Editing situations” on page 1098</a>.</li> <li>◦ You can now create, replace, and edit correlated situations and embedded situations ("Situation Comparison" in Tivoli Enterprise Portal). For more information, see <a href="#">“Creating situations” on page 1106</a> and <a href="#">“Editing situations” on page 1098</a>.</li> </ul> </li> <li>• With the PATCH /situations endpoint, which you use to edit a situation, you can now update the situation FULLNAME property. For more information, see <a href="#">“Editing situations” on page 1098</a>.</li> </ul>	<p>OA68228</p>
<p>Starting with Tivoli® Management Services on z/OS® 6.3.4, IBM Z® OMEGAMON® Data Requester is included as a component. Use of this Grafana application plug-in requires Tivoli Management Services on z/OS APAR OA67404 (PTF UJ96676). For more information, see <a href="#">IBM Z® OMEGAMON® Data Requester</a>.</p>	<p>—</p>

Description	Related APARs
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>• You can now create and replace situations. To control permissions, you must use SAF resource profiles. For more information, see <a href="#">“Creating situations” on page 1106</a> and <a href="#">“Define SAF profiles to control permissions for situations” on page 1086</a>.</li> <li>• The following updates have been made to the PATCH /situations endpoint, which you use to edit a situation: <ul style="list-style-type: none"> <li>◦ You can now edit multiple situations in a single request. For more information, see <a href="#">“Editing multiple situations in a request” on page 1099</a>.</li> <li>◦ Request body property REFLEXACTION_OPTIONS replaces AUTOSOPT. For more information, see <a href="#">“Request body properties for situation editing” on page 1100</a>.</li> </ul> </li> <li>• When requesting situation status information, to use the <b>includeResults</b> parameter set to true, you must now also specify either the <b>name</b> or <b>originnode</b> parameter in the request. For more information, see <a href="#">“Retrieving situation status information” on page 1117</a>.</li> <li>• When executing a Take Action, you can now pass values for variables used in the Take Action. For more information, see <a href="#">“Executing a Take Action” on page 1125</a>.</li> </ul>	<p>OA67524</p>

Description	Related APARs
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>• The following updates have been made to the /situations/status resource: <ul style="list-style-type: none"> <li>◦ Endpoint GET /situations/status now returns information for current situation statuses only. Query parameters <b>expand</b> and <b>timeFrom</b> are no longer supported for this endpoint. New parameter <b>includeResults</b>, when set to true, retrieves the results for a current situation status. For more information, see <a href="#">“Request current situation statuses” on page 1117</a>.</li> <li>◦ New endpoint GET /situations/status/history retrieves situation status history. For more information, see <a href="#">“Request situation status history” on page 1118</a>.</li> <li>◦ New query parameter <b>deltastat</b> allows you to filter results by situation status. For more information, see <a href="#">“Filter results by attributes” on page 1118</a>.</li> </ul> </li> <li>• You can now delete history collection configurations. To control permissions, you must use SAF resource profiles. For more information, see <a href="#">“Deleting a history collection configuration” on page 1097</a> and <a href="#">“Define SAF profiles to control permissions for history collection configurations” on page 1085</a>.</li> <li>• You can now delete situations. To control permissions, you must use SAF resource profiles. For more information, see <a href="#">“Deleting a situation” on page 1116</a> and <a href="#">“Define SAF profiles to control permissions for situations” on page 1086</a>.</li> <li>• You can now delete Take Action definitions. To control permissions, you must use SAF resource profiles. Deleting Take Action definitions requires ALTER access to resource 04SRV.ACTIONS.Kpp.key. For more information, see <a href="#">“Deleting a Take Action definition” on page 1126</a> and <a href="#">“Define SAF profiles to control Take Action permissions” on page 1089</a>.</li> </ul> <div style="border: 1px solid blue; padding: 10px; margin-top: 10px;"> <p><b>Note:</b> You can also use resource 04SRV.ACTIONS.Kpp.key for controlling access when retrieving Take Action definitions. Previously, resource 04SRV.ACTIONS.VIEW.Kpp.key was used. Although resource pattern 04SRV.ACTIONS.VIEW.Kpp.key is still supported when retrieving Take Action definitions, it is recommended that you use resource pattern 04SRV.ACTIONS.Kpp.key.</p> </div>	OA67404
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>• You can now retrieve history collection configurations. To control permissions, you must use SAF resource profiles. For more information, see <a href="#">“Retrieving history collection configurations” on page 1096</a> and <a href="#">“Define SAF profiles to control permissions for history collection configurations” on page 1085</a>.</li> <li>• You can now edit situations. To control permissions, you must use SAF resource profiles. For more information, see <a href="#">“Editing situations” on page 1098</a> and <a href="#">“Define SAF profiles to control permissions for situations” on page 1086</a>.</li> </ul>	OA66931
<p>Starting with Tivoli® Management Services on z/OS® 6.3.3, IBM Z OMEGAMON AI Insights is included as a component. With IBM Z OMEGAMON AI Insights 2.1, the application is now containerized and deployed as a Docker container. For more information, see <a href="#">“IBM Z OMEGAMON AI Insights” on page 58</a>.</p>	—

Description	Related APARs
<p>Using Tivoli Enterprise Monitoring Server REST services, you can now execute a Take Action. To control permissions for users to execute a Take Action, you must use SAF resource profiles. For more information, see <a href="#">“Executing a Take Action” on page 1125</a> and <a href="#">“Define SAF profiles to control Take Action permissions” on page 1089</a>.</p>	OA66461
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>You can now start and stop situations using POST requests. To control permissions to the situations to start and stop, you must use SAF resource profiles. For more information, see <a href="#">“Starting and stopping a situation” on page 1120</a> and <a href="#">“Define SAF profiles to control permissions for situations” on page 1086</a>.</li> <li>When retrieving information for situations and applicable managed system data, you can now filter results by affinity ID (<b>id</b>).</li> <li>When requesting collection data, you can now specify an asterisk (*) for the <b>cols</b> parameter to include all table columns.</li> <li>When you request situation status information from the hub monitoring server, in addition to information from the hub monitoring server, the results now also include information about events from the remote monitoring server.</li> </ul> <p>For more information, see <a href="#">“Tivoli Enterprise Monitoring Server REST services” on page 1080</a>.</p>	OA66540 OA66595
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced, as follows:</p> <ul style="list-style-type: none"> <li>You can now retrieve information about Take Action command definitions.</li> <li>When retrieving situation status information, you can now filter results by Origin Node (<b>originnode</b>) and Display Item (<b>atomize</b>). When using the <b>expand</b> parameter set to true, the <b>name</b> parameter is now required, you can now specify a start time using the <b>timeFrom</b> parameter, and historical information is included in the response.</li> <li>In addition to being able to restrict access to collection data, you can now use SAF profiles to also restrict access to situations, situation statuses, and Take Action command definitions. For more information, see new section <a href="#">“Securing TEMS REST services” on page 1081</a>.</li> </ul> <p>For more information, see <a href="#">“Tivoli Enterprise Monitoring Server REST services” on page 1080</a>.</p>	OA66384
<p>Tivoli Enterprise Monitoring Server REST services have been enhanced to retrieve information about situations for event monitoring, including situation status. You can also retrieve information about self-describing agent records. Additionally, support for user ID mapping for authorization has been added. For more information see <a href="#">“Tivoli Enterprise Monitoring Server REST services” on page 1080</a>.</p>	OA65553
<p>New Take Action command <b>HTTPrQ</b> (HTTP Request) creates an HTTP request when a situation occurs. For more information, see <a href="#">“How to: Create an HTTP request for a situation” on page 888</a>.</p>	OA65625
<p>You can use OpenWebStart, an open-source Java Web Start replacement, to run your Tivoli Enterprise Portal client. For more information, see <a href="#">“Tivoli Enterprise Portal” on page 1186</a> and <a href="#">“OpenWebStart” on page 1186</a>.</p>	—
<p>A new OMEGAMON enhanced 3270 user interface parameter, <b>CON_TIMEOUT</b>, controls the number of seconds until timeout that the conduit manager uses when connecting to a data retrieval agent (DRA) socket. For more information, see <a href="#">“Data retrieval delays/timeouts causing no data conditions” on page 1018</a>.</p> <p>New parameter <b>KOB_DRA_BACKLOG</b> specifies the maximum number of queued connections for the DRA component of the OMEGAMON enhanced 3270 user interface. For more information, see <a href="#">KOB_DRA_BACKLOG</a>.</p>	OA65475

Description	Related APARs
Tivoli Enterprise Monitoring Server REST services are available for accessing OMEGAMON collection data and select managed system data. For more information, see <a href="#">“Tivoli Enterprise Monitoring Server REST services” on page 1080</a> .	OA64983 OA65203
Starting from IBM Tivoli Monitoring V6.3.0.7, Docker technology is introduced to reduce the time and effort in installing the Tivoli Enterprise Portal Server. You can now run IBM Tivoli Monitoring - Tivoli Enterprise Portal Server Container in a Docker runtime environment on Linux on System z or on z/OS using z/OS Container Extensions. For more information, see <a href="#">Tivoli Enterprise Portal Server Container</a> .	—
<p>The IBM Tivoli Monitoring on z/OS framework now supports persistent data store V2 (PDS V2) for all history data sets. You can now use extended address volumes (EAV) for all history data sets.</p> <p>Using Configuration Manager or PARMGEN, you can configure the use of PDS V2 for the Tivoli Enterprise Monitoring Server using the new <b>KDS_PDS2_*</b> parameters.</p> <p>For more information, see <a href="#">“Persistent data store V2 (PDS V2)” on page 1222</a>.</p> <div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> The IBM OMEGAMON for Storage on z/OS internal version of PDS V2 is no longer supported. IBM OMEGAMON for Storage users must use the OMNIMON Base version of PDS V2.</p> </div>	OA63242 OA63770 OA63966
<p>Configuration Manager and PARMGEN now support PDS V2 parameters for the following IBM Advanced Storage Management agents:</p> <ul style="list-style-type: none"> <li>• IBM Tivoli Advanced Allocation Management for z/OS 3.3</li> <li>• IBM Tivoli Automated Tape Allocation Manager for z/OS 3.3</li> <li>• IBM Tivoli Advanced Backup and Recovery for z/OS 2.4</li> </ul> <p>See <a href="#">“PDS V2 parameters and members” on page 1238</a> and <a href="#">“PDS data set names” on page 1225</a>.</p>	OA64006
<p>Configuration Manager and PARMGEN now support PDS V2 parameters for IBM Tivoli Composite Application Manager for Application Diagnostics Agent 7.1.1. See <a href="#">“PDS V2 parameters and members” on page 1238</a> and <a href="#">“PDS data set names” on page 1225</a>.</p>	OA63790
<p>Configuration Manager and PARMGEN now support PDS V2 parameters for the following IBM Advanced Storage Management agents:</p> <ul style="list-style-type: none"> <li>• IBM Tivoli Advanced Catalog Management for z/OS 2.6</li> <li>• IBM Tivoli Advanced Reporting and Management for DFSMSHsm 2.6</li> <li>• IBM Tivoli Advanced Audit for DFSMSHsm 2.6</li> </ul> <p>See <a href="#">“PDS V2 parameters and members” on page 1238</a> and <a href="#">“PDS data set names” on page 1225</a>.</p>	OA63566
<p>A new configuration option is available for passphrase support for the OMEGAMON 3270 Classic user interface. For parameter <b>Kpp_CLASSIC_PASSPHRASE</b> (where <i>pp</i> is C2, D2, I2, or M2), you can now specify the value MAX62, which allows you to enter up to a 62-byte passphrase value on a single line when the screen width is 80 bytes. With a wider screen size, you can specify a passphrase value up to 100 bytes long. For more information, see <a href="#">“How to: Configure passphrase and MFA support in the OMEGAMON 3270 Classic interface” on page 362</a>.</p>	OA62991
<p>Configuration Manager and PARMGEN now support PDS V2 parameters for IBM Z NetView Enterprise Management Agent. See <a href="#">“PDS data set names” on page 1225</a>.</p>	OA63103

Description	Related APARs
<p>z/OS® data set encryption support has been added for persistent data store V2 (PDS V2). For more information, see <a href="#">“How to: Use encryption for your PDS V2 data sets” on page 1239</a>.</p> <p>With the installation of PTF UJ08510 for APAR OA62995, PDS V2 now requires z/OS 2.2 with OA50569 or later.</p> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Attention:</b> After PTF UJ08510 is installed, if your system is not running z/OS 2.2 with OA50569 or later and you attempt to start the monitoring server or monitoring agent, PDS V2 initialization will fail and history data will be lost.</p> </div>	OA62995
<p>The following commands have been added for managing persistent data store V2 (PDS V2) data sets:</p> <ul style="list-style-type: none"> <li>• <b>QUERY DATASTORE.</b> For more information, see <a href="#">“Displaying PDS V2 data set information” on page 1242</a>.</li> <li>• <b>SWITCH.</b> For more information, see <a href="#">“Switching the active data set” on page 1243</a></li> </ul>	OA62342
<p>Support has been added for using the Tivoli administrative commands (tacmd) Command Line Interface (CLI) when your Tivoli Enterprise Monitoring Server resides on a z/OS system that is using multi-factor authentication (MFA). For more information, see <a href="#">“(If applicable) Installing the tacmd CLI component” on page 524</a>.</p>	OA62146
<p>New messages have been added for support of IBM Z OMEGAMON Data Provider.</p>	OA62052
<p>For the OMEGAMON multi-tenancy solution, wildcard support for multi-tenancy user ID definitions has been added. For more information, see <a href="#">“Creating tenant definitions in PDS members” on page 1068</a>.</p>	OA61889
<p>A new type of user has been defined for the OMEGAMON multi-tenancy solution. <i>Power</i> users can access all menu options, icons and commands for all products assigned to their tenant. Power users also have additional navigational capabilities than the regular tenant user. For more information, see <a href="#">“OMEGAMON multi-tenancy” on page 1061</a>.</p>	OA61210
<p>Take Action command authorization and access settings can now be set using SAF profiles. This option provides centralized control to Take Action command access by a security administrator. For more information, see <a href="#">“Configuring Take Action command access using SAF profiles” on page 549</a>.</p>	OA61138 OA61140
<p>Common parameters have been introduced for configuring PDS V2. RTE and agent-specific parameters can be used to activate the use of PDS V2 and to define data set allocation settings, improving the migration process from PDS V1 to PDS V2. These parameters are supported by PARMGEN and Configuration Manager. A utility is also provided that can be used to remove PDS V1 data sets after successful migration to PDS V2. For more information, see <a href="#">“Persistent data store V2 (PDS V2)” on page 1222</a>.</p>	OA60244 OA61008
<p>Open Web Launch, an open-source Java Web Start replacement, can be used to run your Tivoli Enterprise Portal client. For more information, see <a href="#">“Open Web Launch” on page 1186</a>.</p>	OA60952
<p>Improvements have been made to PDS V2 data set allocation, management and usage. PDS V2 data set allocation and management behavior is now either space-based or time-based and depends on the Extent Constraint Removal (ECR) attribute of the SMS data class used when allocating the data sets. Additionally, the overall size of the PDS V2 data sets for an OMEGAMON product has been decreased and is now approximately equal to the size of the equivalent PDS V1 data sets. For more information, see <a href="#">“Persistent data store V2 (PDS V2)” on page 1222</a>.</p>	OA60782

Description	Related APARs
<p>IBM Z Monitoring Configuration Manager (Monitoring Configuration Manager) is a new tool for configuring runtime environments. Monitoring Configuration Manager evolved from Parameter Generator (PARMGEN). While PARMGEN and Monitoring Configuration Manager use the same parameters, Monitoring Configuration Manager simplifies the process of generating runtime members from those parameters.</p> <p>You can use PARMGEN or Monitoring Configuration Manager to configure, replicate, maintain, and update RTEs. For more information, see <a href="#">“Configuring products and components on z/OS”</a> on page 213.</p>	OA60562
<p>For the OMEGAMON multi-tenancy solution, managed system types TCP, VTAM, and MFAD have been introduced for IBM OMEGAMON for Networks for z/OS. These new types replace managed system type MFN. For more information, see <a href="#">“Creating tenant definitions in PDS members”</a> on page 1068.</p>	OA59694
<p>IBM Z Service Management Explorer (IZSME) is a web-based replacement for the Tivoli Enterprise Portal (TEP). The same layout, workspaces, situations, and data available in the TEP are available in IZSME. IZSME is a web application running as a Zowe desktop plug-in, which eliminates the need to install and maintain Java and TEP software on client workstations as required with the TEP. For more information, see <a href="#">“IBM Z Service Management Explorer”</a> on page 1128.</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Note:</b> IBM Z Service Management Explorer requires Tivoli Management Services V6.3.1.</p> </div>	OA59394
<p>A new version of the persistent data store (PDS) has been introduced in OMNIMON Base Version 7.5.0. The new version (PDS V2) uses VSAM Linear Data Sets (LDSs) and replaces the original version (PDS V1), which uses BSAM data sets. PDS V2 is used for near-term history in all the OMEGAMON products. PDS V2 uses significantly less 31-bit virtual storage and less CPU usage than PDS V1, and there are no configuration changes required to use PDS V2. For more information, see <a href="#">“Persistent data store V2 (PDS V2)”</a> on page 1222.</p> <p>PDS V2 supports agent history only; PDS V2 for ITM history is not supported.</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Note:</b> PDS V2 was previously available for OMEGAMON for Storage only but is now available for all OMEGAMON products.</p> </div>	Multiple. See <a href="#">“PDS V2 support”</a> on page 1229.
<p>OMEGAMON products support extended address volumes (EAV) for product data sets and agent history PDS data sets. PDS V2 for ITM history is not currently supported.</p>	—
<p>The OMEGAMON multi-tenancy solution allows the monitoring of distinctly separate sets of resources. With OMEGAMON multi-tenancy, general users can access information for resources assigned to their tenant only and cannot access information about the resources of another tenant. For more information, see <a href="#">“OMEGAMON multi-tenancy”</a> on page 1061.</p>	OA57511
<p>OMNIMON Base Version 7.5.0 provides enablement support for passphrase and multi-factor authentication (MFA). This support enables OMEGAMON 3270 (Classic) users to log on using passphrase and MFA credentials. This enhancement replaces the need for a user-customized assembler module (for example, a SAMPLIB Security exit) which generally defines the SAF Security class for OMEGAMON Classic started tasks. For more information, see <a href="#">“OMNIMON Base Version 7.5.0 PTF UA98944 for APAR OA57133”</a> on page 1509.</p>	OA57133

# What's new in Tivoli Management Services on z/OS configuration software

The topics in this section describe recent updates to IBM Z Monitoring Configuration Manager (Monitoring Configuration Manager or Configuration Manager) and Parameter Generator (PARMGEN). These tools are used to configure, replicate, maintain, and update runtime environments.

**Note:** Previous updates are described in [“What's new in Monitoring Configuration Manager \(previous updates\)”](#) on page 1448 and [“What's new in PARMGEN \(previous updates\)”](#) on page 1449.

## PTF UJ98936 for APAR OA68919 (1Q26)

PTF UJ98936 for APAR OA68919 (1Q26) delivers numerous fixes for Configuration Manager and PARMGEN, including updated parameter help.

For the complete list of updates, see [APAR OA68919](#).

### Configuration Manager and PARMGEN updates

The following updates have been made:

- Updates have been made to the parameter dictionaries for the following products. The listed members, which enable the PF1 help panels for the respective product and parameters, have been shipped with this maintenance.

#### OMEGAMON for IMS

KI2AHELP

#### OMEGAMON for z/OS

KM2AHELP

KM5AHELP

**Tip:** To set up PF1 help in Configuration Manager, see the following blog: [How to enable parameter help in IBM Z Monitoring Configuration Manager](#).

- Parameter `KDS_PH_TEMS_NAME_NODEID` is obsolete and has been removed.

## PTF UJ98753 for APAR OA68536 (4Q25)

PTF UJ98753 for APAR OA68536 (4Q25) provides Configuration Manager enhancements by introducing checking for undefined symbols during parameter validation and improving the data set allocation process for agents. New parameters are introduced for situation status streaming, controlling the session timeout value for OMEGAMON 3270 Classic interface, and other product-specific settings.

### Configuration Manager-only updates

The following updates have been made:

- The **GENERATE** action and the **GENERATE** action with **OPTION VALIDATE** now check that any symbol used in a parameter value is properly defined. If an undefined symbol is encountered, new message `KFJ00253E` is issued for each undefined symbol.

Previously, if you had system variables enabled in your runtime environment (that is, parameter `RTE_SYSV_SYSVAR_FLAG` set to Y), and used a symbol for one of your parameter values, Configuration Manager did not verify if the symbol was defined.

Now, when the validation process encounters a symbol as a parameter value, it checks for the definition where the symbols are defined, as follows:

- System symbols defined (as either dynamic or static) in the PARMLIB library

- System symbols defined in member RTEDEF (SYS@*lpar*)
- User variables defined in members RTEDEF (VAR\$GLOB) or RTEDEF (VAR\$*lpar*)

If the symbol definition is not found, the **GENERATE** action issues message [KFJ00253E](#), and the system action depends on the **RTE\_VALIDATION\_LEVEL** parameter setting, as follows:

- If parameter **RTE\_VALIDATION\_LEVEL** is set to W (Warning) or E (Error), the **GENERATE** action stops with a return code of 8. You must correct the parameter value or symbol definition.
- If parameter **RTE\_VALIDATION\_LEVEL** is set to I (Informational), processing continues, allowing you to use the undefined symbol in your parameter settings. This behavior is acceptable in the following scenarios:
  - You have an undefined symbol that becomes defined when the agent starts, as the symbol can be defined in the PARMLIB library and added dynamically.
  - Your runtime environment is being packaged for deployment to another system; during the **GENERATE** action, the validation process does not have access to the remote system symbols.

**Tip:** Optionally, you can discover the system symbols on the target system and send the results back the configuration system for validation.

- Configuration Manager no longer attempts to allocate data sets in the data set allocation stage for an agent if the data sets already exist. This avoids RACF violations if special privileges are needed for updating data set RKANMODU.

## Product-specific updates

### Tivoli Enterprise Monitoring Server

New parameter **KDS\_STREAM\_SITUATION\_STATUS** controls if situation status streaming from the monitoring server to IBM Z OMEGAMON Data Provider is enabled. The default value is N.

### OMEGAMON 3270 Classic interface

New parameter **Kpp\_CLASSIC\_TIMEOUT** (where *pp* is C2, D2, I2, or M2) allows you to control the idle session timeout value for the OMEGAMON 3270 Classic interface for the respective product.

**Note:** New parameter **KI2\_CLASSIC\_TIMEOUT** for OMEGAMON for IMS has the default value of 0. This default value is different from the previously hardcoded value of 30 that was defined in member RKANPARU (KOIVTM\*). If this member is not excluded, the timeout value is updated with the new default.

### IBM Z OMEGAMON AI for z/OS 6.1

New parameter **KM5\_BPX\_SUPERUSER** allows you to bypass SAF or RACF privilege checks when the monitoring server needs superuser authority to perform certain operations. The default value is N. If **KM5\_BPXSUPERUSER** exists in your embeds data set, remove the parameter; Configuration Manager adds it automatically. Otherwise, there will be duplicate definitions.

### OMEGAMON for JVM 6.1.0

New parameter **KJJ\_IMSREQ\_LATENCY** specifies the startup delay between the IMS transaction initialization and the z/OS Connect API request invocation. The value is in seconds, and the default value is 2.

## PTF UJ98473 for APAR OA68534 (4Q25)

PTF UJ98473 for APAR OA68534 (4Q25) enables IBM Z OMEGAMON AI for Db2 6.1.0 in Configuration Manager and PARMGEN, and also provides various enhancements for this latest product version.

## IBM Z OMEGAMON AI for Db2 6.1

### Configuration Manager-only updates

The following updates have been made in Configuration Manager for IBM Z OMEGAMON AI for Db2 6.1:

- The Performance Warehouse parameters have been simplified. You can now use the following new parameters to configure Performance Warehouse default storage groups, 4K buffer pools, and 32K buffer pools:

```
KD2_DBnn_PWH_DEFAULT_STG      SYSDEFLT
KD2_DBnn_PWH_DEFAULT_BP4K     BP0
KD2_DBnn_PWH_DEFAULT_BP32K    BP32K
```

- For configuration of Near-Term History data sets, you can now use the following new parameters for specifying sequential dynamic (DYN) and sequential generation data group (GDG) settings:

```
KD2_PFn_HIS_SEQ_DSNAME
KD2_PFn_HIS_SEQ_GDG_LIM
```

The new parameters can be used with the following existing parameters:

```
KD2_PFn_HIS_SEQ_PRIMARY_CYL
KD2_PFn_HIS_SEQ_SECONDARY_CYL
KD2_PFn_HIS_SEQ_VOLUME
KD2_PFn_HIS_SEQ_UNIT
KD2_PFn_HIS_SEQ_MCLAS
KD2_PFn_HIS_SEQ_SCLAS
```

- New parameter **KD2\_CLASSIC\_STC** has been added and can be used as an alternative to **GBL\_DB2\_KD2\_CLASSIC\_STC** for specifying the name of the OMEGAMON Db2 Collector started task.
- Member KD2\$PC0P is no longer used.

**Note:** This change also applies to OMEGAMON for Db2 5.4 and 5.5.

For more information about the new parameters, see [New parameters](#).

### Configuration Manager and PARMGEN updates

The following updates have been made in Configuration Manager and PARMGEN for IBM Z OMEGAMON AI for Db2 6.1:

- The product has been enabled.
- The product has been renamed to IBM Z OMEGAMON AI for Db2 (OMEGAMON AI for Db2). It was formerly named IBM OMEGAMON for Db2 Performance Expert on z/OS.
- The following changes have been made to the OMEGAMON for Db2 Performance Warehouse PWG1### template:
  - The template now removes duplicate storage group and buffer pool GRANT statements.
  - Missing GRANT statements from parameters **KD2\_DB\_PWH\_D2PWSTTG** and **KD2\_DB\_PWH\_D2PWSTBP** have been added.
- The default value for parameter **KD2\_PFO1\_SQLPA\_VERSION** is now 5.1.
- The default value for parameter **KD2\_OMPE\_OPTS\_NTHDB2I** is now WAIT.
- The OMEGAMON for Db2 template KD5DFINL now includes a link to the *Complete the configuration* content in IBM Documentation.
- The OMEGAMON Db2 Collector started task EXEC has been renamed from O2CI to D5COLL.
- The configured components table printed in the [parameter validation report \(\\$VALRPT\)](#) now supports the KppDINFO field PRODNAME if COMPNAME does not exist.
- The new embed override member **KD2\$PCPT** has been introduced.

### Job generator utility (JOBGEN) updates

Support has been added for IBM Z OMEGAMON AI for Db2 6.1 in the job generator utility (JOBGEN).

## PTF UJ98129 for APAR OA68463 (3Q25)

PTF UJ98129 for APAR OA68463 (3Q25) provides enhancements for the **PDCOLLECT** utility action in Configuration Manager.

### Configuration Manager-only updates

The following enhancements have been made to the Problem Determination Data Collection (**PDCOLLECT**) utility action that is provided in Configuration Manager:

- The **PDCOLLECT** action now creates a configuration data set that you can use to customize the collection of your diagnostic data. During the initial run of the utility, the **PDCOLLECT** action creates the data set PDCLDEF and member \$USER. You can customize the \$USER member with your own settings to use for collecting diagnostic data during subsequent runs of the utility. For more information, see [“PDCLDEF\(\\$USER\)” on page 370](#).

**Note:** The **PDCOLLECT** action also creates members DEFAULTS and KCIVARS. These members are for internal use by the utility and for reference only. Do not update these members.

- The **PDCOLLECT** action now supports multiple formats for the packaged output. If needed, you can produce more than one type of output in a single job. The following additional packaging formats are now available:
  - PAX (.pax) file, created in a specified z/OS® UNIX® System Services directory
  - ADRDSU archive

**Note:** The **PDCOLLECT** action continues to support the terse (.TRS) file format, which is created using the IEBCOPY UNLOAD function and is retained for compatibility.

- Specifying parameters **RTE\_PLIB\_HILEV** and **RTE\_NAME** is now optional. Omitting the runtime environment information provided by these parameters limits the types of diagnostic data that the **PDCOLLECT** action can collect.
- You can now capture several snapshots of SDSF Display Active Users (DA) data for specified started tasks. The default is 10 samples every 10 seconds, and you can customize these settings.
- You can now capture logs and SDSF DA snapshots for multiple started tasks in a single job by using filtering and wildcard characters.
- You can now select the diagnostic data to collect at a detailed level by using collection flags. By collecting only the types of data that you need, you can reduce both the time and storage used by the **PDCOLLECT** action job. For more information, see [“PDCOLLECT collection flags” on page 369](#).
- Enhanced status reporting for the **PDCOLLECT** action now appears in the KCIPRINT output data set. New messages are in the range [KFJ00240I](#) to [KFJ00262I](#).
- Sample job TKANSAM(KFJMAINT) has been updated.

To support these enhancements, the following parameters have been introduced or modified:

<i>Table 3: PDCOLLECT parameters</i>	
Parameter	Description
<a href="#">RTE_PLIB_HILEV</a> <a href="#">RTE_NAME</a>	Runtime environment information
<a href="#">KFJ_PDCOL_COLLECT_data</a>	Diagnostic data collection flags
<a href="#">KFJ_PDCOL_DA_INTERVAL</a> <a href="#">KFJ_PDCOL_DA_SAMPLES</a>	Control the frequency of SDSF Display Active Users (DA) data collection

Parameter	Description
<u>KFJ_PDCOL_HLQ</u>	High-level qualifier for data sets that the <b>PDCOLLECT</b> action uses
<u>KFJ_PDCOL_JOB_NAME</u> <u>KFJ_PDCOL_JOB_ID</u> <u>KFJ_PDCOL_JOB_FILTER</u>	Collect diagnostic data when OMEGAMON started task logs are in the SDSF output queue
<u>KFJ_PDCOL_JOB_OUTPUT</u>	Collect diagnostic data when OMEGAMON address space logs have been copied to a sequential data set
<u>KFJ_PDCOLLECT_COMPATIBILITY</u> <u>KFJ_PDCOLLECT_ADRSSU</u> <u>KFJ_PDCOLLECT_PAX</u> <u>KFJ_PDCOLLECT_PAX_DIR</u>	<b>PDCOLLECT</b> action output package formats
<u>KFJ_PDCOLLECT_RESTORE</u> <u>KFJ_PDCOL_RESTORE_HLQ</u> <u>KFJ_PDCOL_ADR_ARCHIVE</u>	Restore <b>ADRSSU</b> archive  <div style="border: 1px solid blue; padding: 5px;"><b>Note:</b> These parameters are for use by IBM Software Support only.</div>

For more information about using the Configuration Manager **PDCOLLECT** action, see [“Collecting diagnostic data using PDCOLLECT”](#) on page 366.

## PTF UJ97989 for APAR OA68360 (3Q25)

PTF UJ97989 for APAR OA68360 (3Q25) provides support for configuring IBM Z® OMEGAMON Data Provider in Configuration Manager.

### OMEGAMON® Data Provider

You can now configure OMEGAMON® Data Provider in Configuration Manager using the following new parameters:

#### **CONFIGURE\_ODP\_KAY**

Enables or disables OMEGAMON® Data Provider configuration for the runtime environment

#### **GBL\_USS\_TKAYHFS\_PATH**

Sets the path to the z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKAYHFS

#### **KFJ\_LOCAL\_USS\_TKAYHFS\_PATH**

Specifies the local z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKAYHFS

#### **TRG\_COPY\_TKAYHFS\_PATH**

Specifies the z/OS® UNIX® System Services directory for the SMP/E TKAYHFS installation directory copy

The following product-specific parameters for OMEGAMON® Data Provider (with product prefix **KAY**) have also been introduced:

#### **For OMEGAMON Data Broker:**

##### **KAY\_BROKER\_MEMBER**

Sets the two-character value for the KAYSIP $nn$  member name and the OMEGAMON Data Broker procedure MEM= $nn$  parameter value

##### **KAY\_BROKER\_NAME**

Sets the OMEGAMON Data Broker name, which must match the name specified in the KAYOPEN member

### KAY\_BROKER\_STC

Sets the OMEGAMON Data Broker procedure name

#### For OMEGAMON Data Connect:

### KAY\_CONNECT\_JAVA\_HOME

Sets the path to the Java 17 installation directory

**Note:** Other Java versions are not supported.

### KAY\_CONNECT\_STC

Sets the OMEGAMON Data Connect procedure name

For more information about configuring OMEGAMON® Data Provider, see the following content:

- *Configuration Manager: “How to: Add OMEGAMON Data Provider to a runtime environment” on page 357*
- [IBM Z OMEGAMON Data Provider](#)

**Note:** Configuration of OMEGAMON® Data Provider in Configuration Manager requires IBM Z® OMEGAMON Data Provider (FMID HKOA110) PTF UJ97499.

**Note:** Configuration of OMEGAMON® Data Provider in PARMGEN is not supported.

## PTF UJ97760 for APARs OA67927, OA68134 (3Q25)

PTF UJ97760 for APARs OA67927, OA68134 (3Q25) provides Configuration Manager updates for OMEGAMON for IMS ATF parameters, and introduces a new message that informs you of improved alias processing for SMP/E target libraries. (This PTF also delivers additional updates and fixes; refer to the APAR text for those details.)

### Configuration Manager-only updates

If an alias is used for the SMP/E target data sets for the TKANCUS library, Configuration Manager now resolves the alias before checking if the KCIFLOW DD statement and RTEDEF members point to the same SMP/E target libraries. When an alias is found and resolved, new informational message [KFJ00235I](#) is issued.

### Product-specific updates

#### OMEGAMON for IMS

The following Configuration Manager-only updates have been made related to the Application Trace Facility (ATF) parameters:

- The following parameters, which were converted to table parameters in [PTF UJ97474 for APAR OA67992](#), have been reinstated:
  - KI2\_CLASSIC\_ATFI2**
  - KI2\_CLASSIC\_ATF\_SANDBOX**
  - KI2\_CLASSIC\_ATF\_AUTORESTART**
  - KI2\_CLASSIC\_ATF\_ATFBUFF**

If you have any of these parameters customized in your RTEDEF library, Configuration Manager configuration uses them until you have moved to the **KI2\_I1nn\_CLASSIC\_ATF\*** table parameters. See the PTF HOLD ACTION for various maintenance scenarios.

**Note:** In PARMGEN, the **KI2\_CLASSIC\_ATF\*** parameters have not been reinstated. For information about moving to the **KI2\_I1nn\_CLASSIC\_ATF\*** table parameters, see [PTF UJ97474 for APAR OA67992](#).

- The default values for the **KI2\_I1nn\_CLASSIC\_ATF\*** table parameters are now set automatically.
- The **KI2\_I1nn\_CLASSIC\_ATF\*** table parameters are no longer added to the RTEDEF library during the **DISCOVER** action.

#### OMEGAMON enhanced 3270 user interface

The OMEGAMON enhanced 3270UI started task JCL has been updated: data sets have been moved to different DD names.

**Important:** Because this update modifies the OMEGAMON enhanced 3270UI started task, after applying this maintenance and regenerating your runtime members, you must copy your updated procedure to your system PROCLIB library. The default OMEGAMON enhanced 3270UI started task procedure member is as follows:

- For Configuration Manager: `rte_hilev.SYS1.PROCLIB(OMEGTOM)`
- For PARMGEN: `rte_plib_hilev.rte_name.RKANSAMU(IBMTOM)`

## PTF UJ97474 for APAR OA67992 (2Q25)

PTF UJ97474 for APAR OA67992 (2Q25) provides Configuration Manager enhancements that allow you to omit security exit and assemble-and-link processing during the **GENERATE** action. Additionally, new parameters allow you now to allocate your PDS V2 history data sets on different volumes for the monitoring server and for each monitoring agent. Updates have also been made to the OMEGAMON for IMS ATF parameters.

#### Configuration Manager-only updates

The **GENERATE** action provides the following new action options:

##### **NOSECEXITS**

When **OPTION NOSECEXITS** is specified, the **GENERATE** action does not perform configuration processing for security exits. You can use this option on the initial run of the **GENERATE** action for a new runtime environment, as well as on subsequent runs. You can abbreviate this keyword to **NS**.

##### **NORELINK**

When **OPTION NORELINK** is specified, the **GENERATE** action does not assemble and link the IBM Z OMEGAMON AI for Networks (KN3) or OMEGAMON enhanced 3270 user interface (KOB) modules, even if a relink is required. You can use this option on the initial run of the **GENERATE** action for a new runtime environment, as well as on subsequent runs. You can abbreviate this keyword to **NL**.

Options **NOSECEXITS** and **NORELINK** do not update the RKANMODU load library, a data set that might require more restrictive authorization for updating. You can use these options together while performing the other **GENERATE** configuration steps that do not require additional access.

For more information, see [“GENERATE options” on page 251](#).

#### Configuration Manager and PARMGEN updates

The following persistent data store V2 (PDS V2) parameters have been introduced:

- Common agent parameter **Kpp\_PDS2\_VOLUME** allows PDS V2 history data sets in each monitoring agent to use a different volume for allocation. If a value is not specified, parameter **Kpp\_PDS2\_VOLUME** uses the value from parameter **RTE\_PDS2\_VOLUME**.
- Parameter **KDS\_PDS2\_VOLUME** allows PDS V2 history data sets in the monitoring server to use a custom volume for allocation. If a value is not specified, parameter **KDS\_PDS2\_VOLUME** uses the value from parameter **RTE\_PDS2\_VOLUME**.

#### Product-specific updates

##### OMEGAMON for IMS

New parameters for the Application Trace Facility (ATF) have been introduced that allow you to individually customize each IMS subsystem. The new parameters replace former parameters as described in the following table:

Table 4: Updated OMEGAMON for IMS ATF parameters		
Former parameter name	New parameter name	New default value
KI2_CLASSIC_ATFI2	KI2_I1nn_CLASSIC_ATFI2	N
KI2_CLASSIC_ATF_SANDBOX	KI2_I1nn_CLASSIC_ATF_SANDBOX	OFF
KI2_CLASSIC_ATF_AUTORESTART	KI2_I1nn_CLASSIC_ATF_AUTORSTRT	YES
KI2_CLASSIC_ATF_ATFBUFF	KI2_I1nn_CLASSIC_ATF_ATFBUFF	512

The new parameters must be added between table markers and in the correct row, for example:

```

KI2_I1 BEGIN
KI2_I101_ROW                01
KI2_I101_CLASSIC_ATFI2     N
KI2_I101_CLASSIC_ATF_SANDBOX OFF
KI2_I101_CLASSIC_ATF_AUTORSTRT YES
KI2_I101_CLASSIC_ATF_ATFBUFF 512
...
KI2_I1 END

```

**Note:** For more information about parameter tables in Configuration Manager, see [“Sparse parameter tables: The first row sets the default values for subsequent rows” on page 318.](#)

**Attention:** After applying this maintenance, the former parameters will no longer be used for configuration and in some cases might be lost. Before updating your configuration, make sure to back up the former parameters. See the PTF HOLD TEXT for detailed instructions.

## PTF UJ97076 for APAR OA67703 (2Q25)

PTF UJ97076 for APAR OA67703 (2Q25) provides improved processing in Configuration Manager for z/OS UNIX System Services copy scripts, **GENERATE** action exclude lists, and the **PDCOLLECT** utility action. Configuration validation for OMEGAMON for Db2 has also been improved. In addition, this PTF removes support for some parameters that are now obsolete. (This PTF also delivers some internal updates; refer to the APAR text for those details.)

### Configuration Manager-only updates

The following updates have been made:

- The z/OS UNIX System Services scripts that copy data set members to a z/OS UNIX file system now support MVS data set names that contain the dollar sign (\$) character, which is a special symbol used for variables in shell scripts.
- The **GENERATE** action exclude list processing has been improved.
- The **PDCOLLECT** utility action has been improved.

### Configuration Manager and PARMGEN updates

The following parameters, which are related to the obsolete OMEGAMON health checks for IBM® Health Checker for z/OS®, have been removed:

```

GBL_DSN_HZSPROC_LOADLIB
GBL_DSN_SYS1_SAXREXEC
RTE_HCK_REXX_AXRUSER_HILEV
RTE_HCK_STC_INTERVAL

```

Related topic "Configure the OMEGAMON health checks" has also been removed.

### Product-specific updates

#### OMEGAMON for CICS

OMEGAMON for CICS parameter **KC2\_CLASSIC\_KC2GLB\_SRCLIB** is valid in PARMGEN only. It is not supported by Configuration Manager; instead, you must use parameter **GBL\_DSN\_GLOBAL\_SOURCE\_LIB**.

#### OMEGAMON for Db2

Configuration validation for OMEGAMON for Db2 between the Db2 profile and the Db2 subsystem parameters has been improved.

## PTF UJ96866 for APAR OA67573 (1Q25)

PTF UJ96866 for APAR OA67573 (1Q25) provides a new Configuration Manager report that lists your installed products, and also provides configuration support for the new z/OS Connect API Provider Cluster (*Plex*) view in OMEGAMON for JVM. Additionally, the OMEGAMON enhanced 3270UI started task JCL has been updated, and IPv6 support has been enhanced for parameters **Kpp\_TEMS\_TCP\_HOST** and **KD2\_OMPE\_TCPIP\_ADDRESS**.

### Configuration Manager-only updates

A new report provides information about the installation status and Configuration Manager support of products at your site. The *products installed report* identifies the following products:

- Products that are installed and supported by Configuration Manager
- Products that are installed but not supported by Configuration Manager
- Products that are not installed but supported by Configuration Manager

This report appears automatically in the job output for the **CREATE**, **MIGRATE**, and **GENERATE** actions.

You can also generate the report using the KFJMAINT maintenance workflow by specifying the new **REPORT** action. No other option or parameter is required to run the KFJMAINT job with the **REPORT** action. With this option, you can verify that your product is supported by Configuration Manager before beginning the configuration process.

The report is printed to the job output identified by the new **REPORT** DD statement.

For more information, see [“Products installed report \(REPORT\)” on page 277](#).

### Configuration Manager and PARMGEN updates

Parameter **Kpp\_TEMS\_TCP\_HOST** has been updated to accept a maximum of 39 characters, providing support for IPv6 addresses.

### Product-specific updates

#### OMEGAMON for JVM 6.1

To support the new z/OS Connect API Provider Cluster (*Plex*) view in OMEGAMON for JVM, member **KJJPLNOD** is copied from the TKANSAM library to the global source library defined by parameter **GBL\_DSN\_GLOBAL\_SOURCE\_LIB**. Member **KJJPLNOD** is customizable and automatically excluded from replacement by the **GENERATE** action in Configuration Manager or the **Copy runtime mbrs from WK\*->RK\* RW libs** step (jobs **KCIJPW2R** and **KCIJPW1R**) in PARMGEN.

In addition, new DD name **RKJJGLBL** has been added to the OMEGAMON for JVM started task JCL. This DD name refers to the library where plex node definitions are stored.

**Note:** The plex node functionality requires OMEGAMON for JVM APAR OA67169.

#### OMEGAMON for Db2

The parameter help has been updated for parameter **KD2\_OMPE\_TCPIP\_ADDRESS** to indicate that the maximum length is 39 characters, providing support for IPv6 addresses.

**Note:** The related parameter validation functionality requires OMEGAMON for Db2 APAR PH64397.

### OMEGAMON enhanced 3270 user interface

The enhanced 3270UI started task JCL has been updated: DD names have been reordered, unnecessary DD names have been removed, and new DD names have been added.

## PTF UJ96722 for APAR OA67212 (1Q25)

PTF UJ96722 for APAR OA67212 (1Q25) provides improvements to the Configuration Manager **GENERATE** and **MIGRATE** actions. In addition, this PTF removes PARMGEN and Configuration Manager support for some deprecated features for OMEGAMON for Messaging and OMEGAMON for Storage. (This PTF also delivers additional updates and fixes; refer to the APAR text for those details.)

### Configuration Manager-only updates

The following updates have been made:

- The **GENERATE** action no longer prints the entire RTEDEF library contents to the DSNPROUT output data set by default; only the members used in the configuration are now printed. To print the complete list of members, you must use the **DEBUG** action option.

Related to this change, new message KFJ00237E is now issued when the RTEDEF library does not exist for an action that requires it.

- The **GENERATE** action **VALIDATE** option no longer reads the checkpoint created by the **PREPARE** option. The **VALIDATE** option now deletes the checkpoint member if it exists and continues processing.
- The **MIGRATE** action has been enhanced with improved processing and RTEDEF library formatting.
- Error message KFU00101E has been changed to warning message KFU00101W. Processing continues when this message is encountered.

### Product-specific updates

#### OMEGAMON for Messaging

Parameter **KMQ\_AGT\_STC\_OWNER** has been deprecated. This parameter has been removed from both PARMGEN and Configuration Manager and no longer impacts the creation of the OMEGAMON for Messaging started task. It is recommended that you remove parameter **KMQ\_AGT\_STC\_OWNER** from your runtime environment.

#### OMEGAMON for Storage

Deprecated features of OMEGAMON for Storage have been removed from PARMGEN and Configuration Manager. Directory `/MVD/bin` is no longer referenced, and started tasks that reference this directory (`*S3SO` and `*S3ST`) are no longer created.

## PTF UJ96587 for APAR OA67334 (1Q25)

PTF UJ96587 for APAR OA67334 (1Q25) provides new override embed parameters for the OMEGAMON enhanced 3270 user interface multi-tenancy and First-Failure Data Capture features and adds a new agent startup command for OMEGAMON for JVM. Also, IPv6 support has been enhanced in the Configuration Manager **DISCOVER** action and for the **RTE\_TCP\_HOST** parameter.

### Configuration Manager-only updates

The **DISCOVER** action now supports the discovery of IPv6 addresses. Newly discovered IPv6 addresses are added to the `SYS@lpar` member. IPv6 addresses are added as additional parameters; there is no impact to the existing setup where IPv4 is used.

### Configuration Manager and PARMGEN updates

Parameter **RTE\_TCP\_HOST** has been updated to accept a maximum of 39 characters.

### Product-specific updates

#### OMEGAMON enhanced 3270 user interface

The following new override embed parameters have been added to override embed member `KOB$PENV`:  
**FFDC\_ERROR\_CODES**

Specifies the name of the member containing the First-Failure Data Capture error code definitions. The default value is `KOBFFDC`.

#### **FFDC\_DDNAME**

Specifies the DD name of the data set containing the First-Failure Data Capture error code definitions. The default value is `RKOBPROF`, which uses the `UKOBDATF` data set.

## MULTI\_TENANCY\_DEFS

Specifies the location of the tenant definitions. Valid values are as follows:

### PDS

Definitions are in PDS members located in the data set specified in the DD statement named in the **MULTI\_TENANCY\_DDNAME** parameter.

### SAF

Definitions are made using the System Authorization Facility (SAF) interface for use with an external security system, such as RACF.

## MULTI\_TENANCY\_DDNAME

Specifies the DD name of the data set containing the tenant definitions when defined in PDS members. The default value is RKOBPROF, which uses the UKOBDATF data set.

Following a standard override embed procedure places the new parameters into member RKANPARU (KOBENV).

**Note:** Full enablement of the multi-tenancy and First-Failure Data Capture features requires the OMNIMON BASE APAR OA66898 (PTF UJ96474).

**Note:** During maintenance, if the runtime environment has override embed members enabled, changes to override embed members are not applied automatically by the configuration tool. Instead, you must perform steps manually to apply the updates. This process ensures that any existing settings are not overwritten. If you use Configuration Manager, see new topic "[Update override embed members for an existing RTE after maintenance](#)" on page 340. If you use PARMGEN, see [Override embed members](#).

## OMEGAMON for JVM 6.1.0

New agent startup command **KJJPLEX** has been added to member RKANCMDU (KJJAGST).

**Note:** The **KJJPLEX** functionality requires OMEGAMON for JVM APAR OA67169.

## PTF UJ96496 for APAR OA67208 (4Q24)

PTF UJ96496 for APAR OA67208 (4Q24) provides improved **PDCOLLECT** processing in Configuration Manager and introduces parameters for OMEGAMON for Storage. (This PTF also delivers some internal updates; refer to the APAR text for those details.)

### Configuration Manager-only updates

The **PDCOLLECT** utility action has been improved when gathering network statistics. Related message "[KFJ00236W](#)" on page 385 has been added.

### Product-specific updates

#### OMEGAMON for Storage

The following parameters have been introduced:

- Parameter **KS3\_ZIIP\_OFFLOAD** controls the offloading of some agent workloads to zIIP processing units. The default value is Y.

**Note:** This functionality existed previously in OMEGAMON for Storage agents but was not exposed in Configuration Manager or PARMGEN.

- Parameter **KS3\_TOOLKIT\_DELETE\_AFTER\_DAYS** controls the global retention policy for Storage Toolkit data. The default value is 0.

**Notes:**

- Support for parameter **KS3\_TOOLKIT\_DELETE\_AFTER\_DAYS** requires OMEGAMON for Storage APAR OA67240.
- PF1 help and parameter validation for both parameters also requires OMEGAMON for Storage APAR OA67240.

## PTF UJ96215 for APAR OA67130 (4Q24)

PTF UJ96215 for APAR OA67130 (4Q24) provides support in PARMGEN and Configuration Manager for IBM Z OMEGAMON AI for CICS 6.1 and IBM Z OMEGAMON AI for Storage 6.1. Also, new parameters have been introduced for allocating task history data sets for the OMEGAMON for CICS Classic interface, and the default port value for the Realtime Dataset Metrics feature in OMEGAMON for Storage has changed.

### OMEGAMON for CICS

Updates have been made for the latest release of the product and earlier versions, as follows:

#### IBM Z OMEGAMON AI for CICS 6.1

- The product has been renamed to IBM Z OMEGAMON AI for CICS (OMEGAMON AI for CICS). It was formerly named IBM Z OMEGAMON for CICS.
- Agent startup delay commands have been added.

#### IBM OMEGAMON for CICS 5.5, IBM Z OMEGAMON for CICS 5.6, IBM Z OMEGAMON AI for CICS 6.1

- Initialization of the task history data set (RKC2HIST) for the Classic interface is no longer performed during configuration. The **KOCONV00** program call has been removed.
- For allocating the task history data set (RKC2HIST) for the Classic interface, the following parameters (with respective default values) have been introduced:

KC2_HS01_CLASSIC_VSAM_VOLUME	"%RTE_SMS_VSAM_VOLUME%"
KC2_HS01_CLASSIC_VSAM_STORCLAS	"%RTE_SMS_VSAM_STORCLAS%"
KC2_HS01_CLASSIC_VSAM_MGMTCLAS	"%RTE_SMS_VSAM_MGMTCLAS%"
KC2_HS01_CLASSIC_VSAM_DATACLAS	" "

These parameters define the allocation properties for the Classic interface VSAM data sets, replacing the use of the **RTE\_SMS\_VSAM\_\*** parameters.

To use the new parameters to allocate new data sets in existing runtime environments, you must manually set the parameters, as follows:

#### Using Configuration Manager

Define the new parameters in member **KC5\$PARM** or **KC5\$LPAR** in your runtime environment definition (RTEDEF) library.

#### Using PARMGEN

In new runtime environments, the values for the new parameters are resolved based on existing **RTE\_SMS\_VSAM\_\*** values, and the parameters are commented out.

During the **Set up/Refresh PARMGEN work environment** step (option 1 on the **Workflow - Primary Option Menu**), these new parameters are added with the values set to empty.

### OMEGAMON for Storage

Updates have been made for the latest release of the product and earlier versions, as follows:

#### IBM Z OMEGAMON AI for Storage 6.1

- The product has been renamed to IBM Z OMEGAMON AI for Storage (OMEGAMON AI for Storage). It was formerly named IBM OMEGAMON for Storage on z/OS.
- Member **KS3AINIT** in data set **RKANPARU** now contains only a Realtime Dataset Metrics (RDM) port value.
- Parameter **KDF\_VTS\_VTSHIST** is no longer used.

## IBM OMEGAMON for Storage on z/OS 5.4, IBM OMEGAMON for Storage on z/OS 5.5, IBM Z OMEGAMON AI for Storage 6.1

- The default value for parameter **KS3\_RDM\_PORT** has been changed from 48903 to 0.

### Important:

- For Configuration Manager users: If you previously used the default RDM port value and did not specify parameter **KS3\_RDM\_PORT** in member **KS3\$PARM** or **KS3\$Lpar** in your runtime environment definition (RTEDEF) library, you must explicitly define the parameter and value after applying this maintenance. Otherwise, port 0 is used.
- For PARMGEN users: The value that is in use for parameter **KS3\_RDM\_PORT** in your runtime environment continues to be used after applying this maintenance. No action is required.

### Job generator utility (JOBGEN) updates

Support has been added for IBM Z OMEGAMON AI for CICS 6.1 and IBM Z OMEGAMON AI for Storage 6.1 in the job generator utility (JOBGEN).

## PTF UJ95792 for APAR OA66704 (3Q24)

PTF UJ95792 for APAR OA66704 (3Q24) provides the ability to use the same started task procedure for multiple monitoring servers across different systems in the sysplex. Also, Configuration Manager processing has been improved by not retaining unnecessary members.

### Configuration Manager-only updates

To reduce the amount of DASD space required for your runtime environment and potentially improve the performance of the **KCIPARSE** step in runtime environments where z/OS system variables are enabled, members that do not impact the configuration or agent functionality are no longer included. For new runtime environments, the unnecessary members will not be created. For existing runtime environments, the first time you run the **GENERATE** action after applying this PTF, the unnecessary members are removed from the following libraries:

- RKANPARU
- RKANSAMU
- RKD2PRF
- RKD2PAR
- WKANPARU
- WKANSAMU
- WKD2PRF
- WKD2PAR

### Product-specific updates

#### Tivoli Enterprise Monitoring Server

You can now configure your environment to use the same started task procedure for multiple monitoring servers across different systems in the sysplex. This *shared procedure* can be used for all monitoring server types: hub, high-availability hub, remote. This capability is useful for sites where the SYS1.PROCLIB (or equivalent procedure library) must be shared across all the systems in the sysplex.

To create a shared procedure, you must use system variables and the new flag parameter **"KDS\_TEMS\_PROC\_SHARED"** on page 1407.

For more information, see ["How to: Use a shared procedure for multiple monitoring servers"](#) on page 359.

### IBM OMEGAMON for Messaging on z/OS

Parameter **KMQ\_BACKUP\_STC** has been introduced. For information about using this parameter, see [Optional configuration steps for using the queue manager backup procedure](#).

## PTF UJ95574 for APAR OA66051 (2Q24)

PTF UJ95574 for APAR OA66051 (2Q24) provides several Configuration Manager enhancements, which include the ability to prepare work libraries separately ahead of other steps for staged maintenance, a new report that shows members that are not replaced in runtime libraries due to exclude lists, and a new sample member for setting up PF1 parameter help. Additional enhancements have been made for the allocation of VSAM data sets for history collection in IBM OMEGAMON for Db2 Performance Expert on z/OS 5.5, and dynamic proxy support in IBM Z OMEGAMON AI for z/OS 6.1.

### Configuration Manager-only updates

The following updates have been made:

- The **GENERATE** action now supports **OPTION PREPARE**, a new option that lets you prepare intermediate work libraries for your runtime environment separately from other stages. With this option, you can build the work data sets before other **GENERATE** action stages, in preparation of OMEGAMON® installation or maintenance. You can use this option if you have to perform other related tasks that require the work data sets ahead of time or in parallel, such as preparing members for Db2 binds or copying started task members to PROCLIB libraries. As a result, you can adapt the overall OMEGAMON® maintenance to your site-specific change management process. For more information, see [“PREPARE” on page 255](#).
- The **GENERATE** action job output now shows what members are not replaced when the work (WK\*) libraries are copied to the runtime (RK\*) libraries due to exclude list definitions. The list of members is provided in the new exclude report, which is identified by the EXCLRPT DD statement. For more information, see [“Members excluded during GENERATE action” on page 256](#).
- REXX exec KFJPHelp has been added to sample library TKANSAM, which provides PF1 parameter help in Configuration Manager. To enable this function, see the following article: [How to enable parameter help in IBM Z Monitoring Configuration Manager](#)

### Configuration Manager and PARMGEN updates

The following update has been made:

- Warning messages have been added to RKANPARU members indicating they are read-only and should not be modified.

### Product-specific updates

#### IBM OMEGAMON for Db2 Performance Expert on z/OS 5.5

The following updates have been made:

- Previously, allocation of VSAM data sets for Thread History collection for the OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) used the following parameters for default allocation attributes, which were shared with the Classic Near-Term History feature:  
**KD2\_PFn\_HIS\_VSAM\_VOLUME1**  
**KD2\_PFn\_HIS\_VSAM\_SCLAS1**  
**KD2\_PFn\_HIS\_VSAM\_MCLAS1**  
Now, when allocating VSAM data sets for Thread History collection, use the following new parameters, which are exclusive to allocating the data sets for the enhanced 3270UI:  
**KD2\_PFn\_THRDHIS\_VOLUME**  
**KD2\_PFn\_THRDHIS\_SCLAS**  
**KD2\_PFn\_THRDHIS\_MCLAS**
- New possibilities have been introduced to reuse IBM OMEGAMON for Db2 Performance Expert on z/OS 5.4 Classic Near-Term History parameters to customize the allocation of VSAM data sets in IBM OMEGAMON for Db2 Performance Expert on z/OS 5.5.

To support better customization, Classic Near-Term History VSAM allocation attributes in OMEGAMON for Db2 5.5 can now reuse the following numbered parameters:

**KD2\_PFn\_HIS\_VSAM\_VOLUMEi**  
**KD2\_PFn\_HIS\_VSAM\_SCLASi**  
**KD2\_PFn\_HIS\_VSAM\_MCLASi**

By default, this feature is not enabled, and you do not need to change your existing configuration if you are using parameters **KD2\_PFnn\_HIS\_VSAM\_VOLUME**, **KD2\_PFnn\_HIS\_VSAM\_SCLAS**, and **KD2\_PFnn\_HIS\_VSAM\_MCLAS**.

However, if you are manually editing the ALLOCDS member to customize the allocations of the Classic Near-Term History VSAM data sets, you can now use this new customization feature instead. To enable the customization, set new parameter **KD2\_PFnn\_HIS\_VSAM\_CUSTOMIZE** to Y.

Optionally, you can use related new parameter **KD2\_PFnn\_HIS\_VSAM\_PREFIX**. You can change the prefix value to VS to use the backwards-compatible naming convention used in OMEGAMON for Db2 5.4, and reuse the existing numbered parameters. Using this approach, now you can set different values for the numbered parameters for all 768 VSAM data sets directly in the configuration, if needed.

**Note:** While the new parameters and associated help are delivered in APAR OA66051, the parameter validation logic is delivered in OMEGAMON for Db2 5.5 APAR PH60055.

OMEGAMON for Db2 5.4 is not impacted by these updates.

### IBM OMEGAMON® for z/OS

The following updates have been made:

- IBM Z OMEGAMON AI for z/OS 6.1 parameter **KM5\_SYSPLEX\_PROXY\_POSITION** set to EXCLUDE now supports Dynamic Proxy Assignment, which enables the automatic switching of the plexview proxy. For more information, see [Configuring Dynamic Proxy Assignment](#).
- Support for the following parameters, which are related to RMF caching in the OMEGAMON Subsystem, has been removed from PARMGEN and Configuration Manager:

**RTE\_KCN\_CACHE\_KM5\_NTH**  
**RTE\_KCN\_CACHE\_KM5\_NTH\_RANGE**

This update applies to all versions of OMEGAMON® for z/OS.

## PTF UJ95019 for APAR OA66050 (1Q24)

PTF UJ95019 for APAR OA66050 (1Q24) provides several Configuration Manager enhancements, which include the ability to create members for multiple runtime environments in the same RTEDEF library and to create SMP/E target library copies that you can use with your runtime environments. Additionally, new data sets are now allocated for the new *Developers Reference* in the OMEGAMON enhanced 3270 user interface. Updates have also been made to the JOBGEN tables.

### Configuration Manager-only updates

The following updates have been made:

- The **CREATE** action now supports the creation of multiple runtime environments in the same RTEDEF library. To use this feature, specify **OPTION MULTIPLE** (which you can abbreviate to **OPTION MULTI**) in the KCIIVARS DD. Use the **KFJ\_SYSNAME** parameter to replace *lpar* in the member name *Kpp\$lpar*. By running the **CREATE** action multiple times with different *\$lpar* suffixes, you can create an initial set of members for multiple runtime environments.

**Note:** **KFJ\_SYSNAME** is an internal parameter that automatically assigns the value of **SYSNAME**, but it is possible to specify a different value for **KFJ\_SYSNAME** in the KCIIVARS DD as well.

If **OPTION MULTIPLE** is not specified, the **CREATE** action constructs product members with the extension of \$PARM, as occurred previously.

For more information, see [“CREATE” on page 239](#).

- You can now use Configuration Manager to create one or more copies of your SMP/E target libraries from which you can create or update your runtime environments. New action option **TRGCOPY** has been added to the **CREATE** and **GENERATE** actions for this *target copy* feature. The target library copies that are created depend on the products selected for configuration. The **CREATE** action with **OPTION TRGCOPY** creates the

required member for customizing the SMP/E target copy properties, and the **GENERATE** action with **OPTION TRGCOPY** copies the SMP/E target libraries.

**Note:** If you are moving from PARMGEN to Configuration Manager, the Configuration Manager target copy feature provides an alternative to the PARMGEN base library feature.

For more information, see [“Using SMP/E target library copies” on page 352](#).

- To support the target copy feature, new parameters with prefix TRG have been introduced. For more information, see [“Target copy \(TRG\) parameters” on page 316](#).
- The **CREATE** action options **MULTIPLE** and **TRGCOPY** are not compatible.
- The following messages are new or have been updated: [“KFJ00203E” on page 376](#), [KFJ00227E](#), [KFJ00228W](#) (replaces message KFJ00206W), and [“KFJ00229E” on page 384](#).

## Product-specific updates

### OMEGAMON enhanced 3270 user interface

To support the new *Developers Reference* that is now available in the OMEGAMON enhanced 3270 user interface, the new TKANBENU library definition has been added to the enhanced 3270UI started task. Allocation statements for DKANBENU and TKANBENU libraries have been added in the job generator utility (JOBGEN). After you generate an updated runtime environment, a new user copy data set UKANBENU will also be created. Refer to the APAR text for detailed information.

**Important:** Because this enhancement modifies the OMEGAMON enhanced 3270UI started task, after applying this maintenance and regenerating your runtime members, you must copy your updated procedure to your system PROCLIB library. The default OMEGAMON enhanced 3270UI started task procedure member is as follows:

- For Configuration Manager: `rte_hilev.SYS1.PROCLIB(OMEGTOM)`
- For PARMGEN: `rte_plib_hilev.rte_name.RKANSAMU(IBM TOM)`

### IBM OMEGAMON for Db2 Performance Expert on z/OS

The RKANSAMV library is no longer allocated for OMEGAMON for Db2 versions later than 5.4.0, and RKANSAMF is no longer allocated if OMEGAMON for Db2 is not installed.

### Job generator utility (JOBGEN) updates

In addition to the JOBGEN updates that were made for the [OMEGAMON enhanced 3270 user interface](#), the JOBGEN tables were updated to support OMEGAMON for z/OS 5.5.1 and OMEGAMON for Networks 5.5.1.

## PTF UJ94732 for APAR OA64188 (1Q24)

PTF UJ94732 for APAR OA64188 (1Q24) sets HTTPS as the default communication protocol for Tivoli Management Services on z/OS components, introduces related parameters **RTE\_TEMS\_TRANSPORT\_MODE** and **KDS\_TEMS\_HTTPS\_PORT\_NUM**, and also introduces related message KFJ00226W.

**Important:** The application of this PTF affects the communication protocol that will be used for your runtime environment, regardless of any previous settings. You must proactively review your settings and make any necessary updates as needed, as described in this topic and in the APAR text. If you do not update your configuration, the default communication protocol will be HTTPS.

**Important:** In order to remain on HTTP for an existing runtime environment, you must add (or update) parameter `RTE_TEMS_TRANSPORT_MODE` set to value HTTP in the RTEDEF (`rte_name`) member for Configuration Manager or WCONFIG(`rte_name`) for PARMGEN. Do not refresh your environment until after you set this parameter. For more information, see [“Impact to an existing runtime environment” on page 38](#) or [“Update runtime environment to use HTTP” on page 593](#).

## New parameters

New parameter `RTE_TEMS_TRANSPORT_MODE` lets you specify the communication protocol for your runtime environment. Valid values are HTTPS, HTTP, and NONE. The default value is HTTPS.

New parameter `KDS_TEMS_HTTPS_PORT_NUM` lets you specify the HTTPS port number. The default value is 3661.

These parameters are supported by both Configuration Manager and PARMGEN.

For more information about the parameters, see [RTE\\_TEMS\\_TRANSPORT\\_MODE](#) and [KDS\\_TEMS\\_HTTPS\\_PORT\\_NUM](#).

## Impact to a new runtime environment

The application of this PTF impacts a new runtime environment as follows:

- Using Configuration Manager: On the **CREATE** and **MIGRATE** actions, Configuration Manager exposes parameter `RTE_TEMS_TRANSPORT_MODE` in RTEDEF (`rte_name`) with the default value HTTPS, but it does not expose parameter `KDS_TEMS_HTTPS_PORT_NUM`. To use an HTTPS port other than the default, you must manually add parameter `KDS_TEMS_HTTPS_PORT_NUM` and specify the HTTPS port number.
- Using PARMGEN: PARMGEN lists parameters `RTE_TEMS_TRANSPORT_MODE` and `KDS_TEMS_HTTPS_PORT_NUM` in WCONFIG(`rte_name`). You must manually review both settings and update per your environment setup if necessary; otherwise, the default values will be used.

## Impact to an existing runtime environment

**Important:** After you apply this PTF and before you refresh your runtime environment, you must update your configuration to reflect your HTTP or HTTPS protocol setup. For Configuration Manager, any updates must be made before running the **GENERATE** action. For PARMGEN, any updates must be made before running the \$PARSE job.

**Important:** In order to remain on HTTP for an existing runtime environment, you must add (or update) parameter `RTE_TEMS_TRANSPORT_MODE` set to value HTTP in the RTEDEF (`rte_name`) member for Configuration Manager or WCONFIG(`rte_name`) for PARMGEN. Do not refresh your environment until after you set this parameter.

The application of this PTF impacts existing runtime environments and requires manual configuration updates, as follows:

- Using Configuration Manager: Before you run the **GENERATE** action, add the new `RTE_TEMS_TRANSPORT_MODE` parameter to the RTEDEF (`rte_name`) member and specify one of the acceptable values for this parameter: HTTP, HTTPS or NONE. The default value is HTTPS. If the parameter is not specified in the RTEDEF (`rte_name`) member, the default value will be used. Next, add the new `KDS_TEMS_HTTPS_PORT_NUM` parameter to the RTEDEF (KDS\$PARM) member, the RTEDEF (KDS\$lpar) member, or both, and specify the HTTPS port number. The default value is 3661. If the parameter is not specified in the RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar) member, the default value will be used.

If, prior to the application of the PTF, your existing runtime environment was set up to use the default HTTP protocol and specified the port with parameter `KDS_TEMS_HTTP_PORT_NUM`, then, when you apply the PTF and run the **GENERATE** action without doing any manual changes, HTTP will be disabled, the `KDS_TEMS_HTTP_PORT_NUM` value (HTTP:0) will be ignored, and the default setting (HTTPS:3661) will be enabled. To continue using HTTP, you must manually add the following line into the RTEDEF (`rte_name`) member:

```
RTE_TEMS_TRANSPORT_MODE "HTTP"
```

If HTTP is specified for **RTE\_TEMS\_TRANSPORT\_MODE**, new message **KFJ00226W** is issued in the Configuration Manager KCIPRINT output data set, informing you that your runtime environment is using a non-secure communication protocol.

- Using PARMGEN: After you run the PARMGEN Workflow primary option **Set up/Refresh PARMGEN work environment** (option 1), the new parameters appear in WCONFIG (*rte\_name*). You can update the parameters as needed. For example, to continue using the HTTP protocol, change **RTE\_TEMS\_TRANSPORT\_MODE** to HTTP manually before running the \$PARSE job and the subsequent PARMGEN steps; otherwise, the HTTP protocol will be disabled and the HTTPS protocol will be enabled.

For more information about updating the communication protocol for your runtime environment, see the following topics:

- [“Update runtime environment to use HTTPS” on page 591](#)
- [“Update runtime environment to use HTTP” on page 593](#)
- [“Update runtime environment to disable HTTP and HTTPS” on page 594](#)

### Avoiding potential overrides

Existing HTTP and HTTPS communication protocol configuration in the following parameters can potentially override **RTE\_TEMS\_TRANSPORT\_MODE** parameter output in the *KppENV* members:

**Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS**  
**Kpp\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS**

- For the Tivoli Enterprise Monitoring Server (product code KDS): If **HTTPS:n** or **HTTP:n** is specified in **KDS\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS** or **KDS\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS**, consider removing those settings. The configuration tool will automatically update the *KDSENV* member using existing and newly introduced parameters.
- For the agents: If **HTTP:0** is specified in **Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS** or **Kpp\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS**, consider removing it from the parameter value. By specifying **RTE\_TEMS\_TRANSPORT\_MODE "HTTPS"**, **HTTP:0** will be added to all *KppENV* members automatically. All HTTPS-related configuration in these parameters can remain unchanged.

## PTF UJ94529 for APAR OA65933 (1Q24)

PTF UJ94529 for APAR OA65933 (1Q24) introduces a new section in the **MIGRATE** action report about additional parameters that are not migrated, and also introduces error message **KFJ00225E** to indicate an incorrectly set embeds library. Additionally, informational message **KFU00003I** was removed from KCIPRINT and now appears in KCITRACE only. (This PTF also delivers additional fixes; refer to the APAR text for those details.)

### Configuration Manager-only updates

The following updates have been made:

- A new section has been added to the report in the **MIGRATE** job output that includes parameters that are not migrated because they match the PARMGEN **RTE\_HILEV** parameter value.
- New error message [“KFJ00225E” on page 382](#) has been added. This message informs you when there is a problem with the specification of your embeds data set.
- Informational message [“KFU00003I” on page 392](#), which is issued by **KCIOMEGA**, now appears only in the KCITRACE sysout data set. Previously, it also appeared in KCIPRINT. Documented examples have been updated accordingly.

## PTF UJ94312 for APAR OA65216 (4Q23)

PTF UJ94312 for APAR OA65216 (4Q23) changes PDS V2 activation for the monitoring server to be enabled by default. In addition, Configuration Manager has been updated to provide enhanced PDS V2 status messaging, improved parameter support for SAF class configuration for product-specific Take Action commands, the ability to override the default binder program, and new Db2-related data set allocation control for remote deployment.

## Configuration Manager and PARMGEN updates

With this PTF, activation of the persistent data store V2 (PDS V2) for the Tivoli Enterprise Monitoring Server (monitoring server) is now enabled by default. Previously, the **KDS\_PDS2\_ACTIVATION** parameter had the default setting of N; now, the default setting is Y. This change impacts new runtime environments created using either PARMGEN or Configuration Manager.

This change also impacts existing Configuration Manager configurations where the **KDS\_PDS2\_ACTIVATION** parameter is not explicitly defined in the RTEDEF library. If there are no other settings preventing PDS V1 from being disabled, the **GENERATE** action will cause the runtime environment to fully switch to using PDS V2, which will occur when you run a full **GENERATE** or a **GENERATE** with options **NOUSS** or **QUICKCONFIG**.

## Configuration Manager-only updates

The following updates have been made:

- New informational messages [KFJ00223I](#) and [KFJ00224I](#) have been added. These messages appear in KCIPRINT to inform you about the global status of PDS V1 and PDS V2 in the runtime environment. If PDS V1 is still enabled, more messages will follow that provide details about the PDS V2 status of individual agents.
- To simplify System Authorization Facility (SAF) class configuration of product-specific Take Action commands, the **RTE\_SECURITY\_CLASS** parameter value is now automatically propagated to the following product parameters as the default value:
  - [KC5\\_SECURITY\\_ACTION\\_CLASS](#)
  - [KM5\\_SECURITY\\_ACTION\\_CLASS](#)
  - [KN3\\_SECURITY\\_ACTION\\_CLASS](#)
- New parameter "[GBL\\_UTIL\\_BINDER](#)" on [page 294](#) is now available. You can use this parameter to override the default binder program IEWL.

**Note:** [GBL\\_UTIL\\_BINDER](#) is incorrectly documented as [KFJ\\_UTIL\\_BINDER](#) in the APAR text. The correct name for this parameter is [GBL\\_UTIL\\_BINDER](#).

- New parameter [KFJ\\_LOCAL\\_KD5\\_RUN\\_ALLOC](#) is now available. This parameter controls if the job for Db2-related data set allocation is submitted. This parameter is used for remote deployment scenarios.

## PTF UJ93992 for APAR OA65613 (4Q23)

PTF UJ93992 for APAR OA65613 (4Q23) provides improved job reporting output for the Configuration Manager **DEPLOY** action. Additionally, PARMGEN now refers to IBM Documentation for information about completing the configuration for some components. (This PTF also delivers additional fixes; refer to the APAR text for those details.)

## Configuration Manager-only updates

The **DEPLOY** action has been enhanced to produce an informative report when running in default mode. The \$REPORT DD has been added to indicate which data sets were deployed, which were intentionally skipped, and which failed; and messages have been improved in KCIPRINT to better summarize this information. In addition, the deployment status of the z/OS UNIX System Services data sets is included in the \$REPORT output. For more information, see "[DEPLOY action output](#)" on [page 272](#).

**Note:** SYSPRINT is no longer used for **DEPLOY** action output. In earlier product versions, SYSPRINT was used for reporting the status of the restore process; however, this information is now provided in the KCIPRINT SYSOUT data set and the \$REPORT DD.

## PARMGEN-only updates

The **Complete the configuration** panels for the Tivoli Enterprise Monitoring Server (KDS) and the OMEGAMON enhanced 3270 user interface (KOB) components have been updated to link to the respective information in IBM Documentation:

- [“Complete the configuration of a Tivoli Enterprise Monitoring Server” on page 523](#)
- [“Complete configuration of the OMEGAMON enhanced 3270 user interface” on page 564](#)

## PTF UJ93804 for APAR OA65222 (3Q23)

PTF UJ93804 for APAR OA65222 (3Q23) provides Configuration Manager enhancements, including new **GENERATE** action options **RELINK** and **QUICKCONFIG**, improvements in job output reporting, support for symbolics in parameter **RTE\_X\_OVERRIDE\_EMBEDS\_LIB**, and support for discovering subsystem aliases. Additional enhancements have also been made for configuring the OMEGAMON enhanced 3270 user interface.

### Configuration Manager-only updates

The following changes have been made:

- The **GENERATE** action has been updated to introduce the following **OPTION** keywords:

#### **RELINK**

This option allows you to rerun only the assembly and link-edit steps for modules shipped by products OMEGAMON for Networks (KN3) and OMEGAMON enhanced 3270 user interface (KOB).

#### **QUICKCONFIG**

This option skips the reloading of SMP/E modules into the runtime environment and provides significant reduction in resources used by the **GENERATE** action. The runtime environments that will benefit the most from this option are full runtime environments (**RTE\_TYPE** parameter is set to FULL).

- Configuration Manager jobs will now print fewer lines of output than previously, resulting in significantly reduced spool usage.

Configuration Manager jobs now delete most of the substep DD outputs from the JES spool. There are some exceptions, such as KCIPRINT, KCITRACE, KCIVARSO, and other similar, important DD outputs. Automatically deleting this output significantly reduces spool usage and should help to successfully run the **GENERATE** action on systems where output line limitations exist. Since the number of output lines still varies, you should check the impact on your individual runtime environment setups and adjust the limits accordingly.

If a Configuration Manager job fails, the DD statement that contains the error message is printed in addition to the regular DD statements. **OPTION DEBUG** has been added to re-enable the printing of the entire output; this option is only needed for troubleshooting.

**Note:** Deletion of DD outputs is not supported in JES3. The debugging option can still be used if required, but its function is limited to printing additional debugging messages.

- In the **GENERATE** and **MIGRATE** actions, you can now see stage completion messages issued to KCIPRINT. These messages give you a better understanding of how far the job has progressed.
- Support for symbolics has been added to the Configuration Manager-only parameter **RTE\_X\_OVERRIDE\_EMBEDS\_LIB**. You can now use system variables, like in the respective security exits parameter (**RTE\_X\_SECURITY\_EXIT\_LIB**).
- The **DISCOVER** action now honors subsystem aliases during discovery, which impacts the following parameters for Db2, IMS, and TCP/IP, respectively: **KD2\_DBnn\_DB2\_LOADLIB**, **KI2\_I1nn\_CLASSIC\_IMS\_RESLIB**, **KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN**

### Product-specific updates

#### OMEGAMON enhanced 3270 user interface

The following changes have been made:

- The default OMEGAMON enhanced 3270 user interface (KOB) UKOBDATF data set allocation size has been increased to 100 directory blocks, and the space allocation has been increased to CYL(1,5). This update impacts both Configuration Manager and PARMGEN.

The UKOBDATF data set is not reallocated automatically by the configuration software. The new allocation size applies only to new runtime environments. If you want to change an existing UKOBDATF data set to use the new recommended size, you must manually reallocate it.

- Parameter **KOB\_TIMEOUT** was added to OMEGAMON enhanced 3270 user interface (KOB) configuration. This parameter can be used to control the TIMEOUT parameter in the IBM OMEGAMON enhanced 3270 user interface started task JCL, in the PARM=( ) section. This update impacts both Configuration Manager and PARMGEN.

## PTF UJ92865 for APAR OA64870 (3Q23)

PTF UJ92865 for APAR OA64870 (3Q23) provides support in PARMGEN and Configuration Manager for IBM Z OMEGAMON AI for JVM, 6.1; IBM Z OMEGAMON AI for z/OS 6.1; and IBM Z OMEGAMON AI for Networks 6.1.

### IBM Z OMEGAMON AI for JVM, 6.1

- The product has been renamed to IBM Z OMEGAMON AI for JVM (OMEGAMON AI for JVM). It was formerly named IBM Z OMEGAMON for JVM.
- Support for Health Center has been removed.

### IBM Z OMEGAMON AI for Networks 6.1

- The product has been renamed to IBM Z OMEGAMON AI for Networks (OMEGAMON AI for Networks). It was formerly named IBM Z OMEGAMON Network Monitor.

### IBM Z OMEGAMON AI for z/OS 6.1

- The product has been renamed to IBM Z OMEGAMON AI for z/OS (OMEGAMON AI for z/OS). It was formerly named IBM Z OMEGAMON Monitor for z/OS.
- Support for EPILOG has been removed.

## PTF UJ93077 for APAR OA64681 (2Q23)

PTF UJ93077 for APAR OA64681 (2Q23) provides several Configuration Manager enhancements, including new **GENERATE** action options for parameter validation and loading read-only configuration members. Added control for z/OS® UNIX® System Services configuration steps has been extended to the **PACKAGE** and **DEPLOY** actions for remote deployment. Additionally, enhancements have been made in support of IBM Z OMEGAMON Data Provider and IBM OMEGAMON for Db2 Performance Expert on z/OS.

### Configuration Manager-only updates

The following changes have been made:

- The **GENERATE** action has been updated to provide the following **OPTION** keywords:

#### **VALIDATE**

Perform initial validation of RTEDEF parameters. The **VALIDATE** option performs only the necessary steps to perform the parameter validation, and produces the validation report, \$VALRPT. The **VALIDATE** option can be used before the full **GENERATE** job is run. It is not compatible with any other **OPTION** value.

#### **QUICKLOAD**

Load the read-only configuration members to the RK\* data sets. The read-only members are those members that are not impacted by customization during configuration. **OPTION QUICKLOAD** is compatible with the **USS** and **SECXITS** values, but is not compatible with the **VALIDATE** and **NOUSS** values.

For more information, see [“GENERATE” on page 248](#).

- The **PACKAGE** action has been updated to provide the following **OPTION** keyword:

#### **NOUSS**

Do not include the files and directories related to z/OS® UNIX® in the **PACKAGE** output.

For more information, see [“PACKAGE” on page 265](#).

- The **DEPLOY** action has been updated to provide the following **OPTION** keywords:

**USS**

Run only the **DEPLOY** workflow stage that deploys the parts related to z/OS® UNIX®.

**NOUSS**

Do not run the z/OS® UNIX® deploy stage in the **DEPLOY** action.

For more information, see [“DEPLOY” on page 268](#).

- The **MIGRATE** action has been updated with a new DD statement, MIGRPT, which adds information about the parameters to the job output. The new report presents parameters in the following groups:
  - Parameters that are migrated to the RTEDEF data set because their values are different from the default values
  - Parameters that are always migrated, regardless of values being default or not
  - Parameters that are not migrated because of having default values

For more information, see [“MIGRATE” on page 261](#).

## Product-specific updates

### IBM Z OMEGAMON Data Provider

An update has been made for handling IBM Z OMEGAMON Data Provider configuration artifacts. Filter RKANPARU (KAY\*) has been added to the EXCLUDE list, and as a result, any user changes in those members (including member KAYOPEN) will be retained during runtime environment regeneration.

### IBM OMEGAMON for Db2 Performance Expert on z/OS

This PTF adds enablement and validation extensions for IBM OMEGAMON for Db2 Performance Expert on z/OS APAR PH53163.

## PTF UJ92421 for APAR OA64052 (1Q23)

PTF UJ92421 for APAR OA64052 (1Q23) provides several Configuration Manager enhancements, including a new parameter that allows more granular control over certain actions. This parameter enables generate options for z/OS® UNIX® System Services and security exits configuration steps and the ability to migrate multiple runtime environments into a single RTEDEF data set. Additionally, support has been added to PARMGEN and JOBGEN for IBM Discovery Library Adapter for z/OS V3.2.

### Configuration Manager-only updates

The following changes have been made:

- A new KCIVARS parameter, **OPTION**, has been introduced. It allows more granular control over certain actions. This parameter is optional. All actions run as previously if **OPTION** is not specified. For more information, see [“Action options” on page 238](#).

- The **GENERATE** action has been updated to provide the following **OPTION** keywords:

**USS | NOUSS**

**OPTION USS** runs only the **GENERATE** workflow stage that deploys the z/OS UNIX related parts.  
**OPTION NOUSS** skips the z/OS UNIX deploy stage in the **GENERATE** action.

**SECEXITS**

**OPTION SECEXITS** rebuilds security exits only.

Some options require a complete run of the **GENERATE** action prior to use. Additionally, some options are not compatible to run with other options during the same job.

For more information, see [“GENERATE” on page 248](#).

- The **MIGRATE** action has been updated as follows:
  - The **MIGRATE** action now supports the migration of multiple runtime environments into the same RTEDEF library. To use this function, the new KCIVARS parameter **OPTION** must be specified with the value **MULTIPLE** (which can be abbreviated to **MULTI**).

The **KFJ\_SYSNAME** parameter value is used to replace *lpar* in the member name *Kpp\$lpar*. Note that **KFJ\_SYSNAME** is an internal parameter that automatically assigns the value of **SYSNAME**, but it is possible to specify a different value for **KFJ\_SYSNAME** in KCIVARS as well.

If **OPTION MULTIPLE** is not specified, the **MIGRATE** action constructs product members with the extension of \$PARM, as occurred previously.

- The **CONFIRM** workflow variable is no longer supported for the **MIGRATE** action. The job issues a list of error messages in KCIPRINT and writes user actions to perform in the case of member duplication. The RTEDEF library, once created, is not overwritten by the **MIGRATE** action.
- The **MIGRATE** action now supports using the same high-level qualifier as PARMGEN-generated runtime environments. This functionality is referred to as *in-place migrate*. The only action required is changing the **RTE\_PLIB\_HILEV** parameter value to match the high-level qualifier as indicated in the **KFJ\_MIGRATE\_WCONFIG** parameter.

**Important:** It is highly recommended that you back up the source PARMGEN runtime environment as subsequent **GENERATE** actions will overwrite data set contents and previous data might be lost.

For more information, see “[MIGRATE](#)” on page 261.

- The high-level qualifier used in Configuration Manager can now be 28 characters (instead of the previous limit of 20 characters).
- Configuration Manager no longer creates data sets WCONTABL and WCONBACK, which are not required.

### PARMGEN-only updates

Support has been added for IBM Discovery Library Adapter for z/OS V3.2 in PARMGEN.

### Job generator utility (JOBGEN) updates

Support has been added for IBM Discovery Library Adapter for z/OS V3.2 in the job generator utility (JOBGEN). FMID HIZD320 was added to the JOBGEN table and it can be used to install or upgrade DLA.

## PTF UJ92101 for APAR OA63966 (1Q23)

PTF UJ92101 for APAR OA63966 (1Q23) adds support for PDS V2 configuration for the Tivoli Enterprise Monitoring Server in the configuration software and modifies PDS V2 support for IBM OMEGAMON for Storage on z/OS.

### Configuration Manager and PARMGEN updates

With this PTF, you can now configure the use of persistent data store V2 (PDS V2) for the monitoring server in both Configuration Manager and PARMGEN using the following parameters:

- KDS\_PDS2\_ACTIVATION
- KDS\_PDS2\_FILE\_COUNT
- KDS\_PDS2\_SEC\_SIZE
- KDS\_PDS2\_STORE\_SIZE

The default value for **KDS\_PDS2\_ACTIVATION** is N, so if it is not manually changed to Y, there is no functional change in the runtime environment.

If **KDS\_PDS2\_ACTIVATION** is set to Y and all agents in the runtime environment also have PDS V2 activated (which is the default setting), then PDS V1 is automatically disabled; PDS V1 modules will not be loaded and PDS V1 data sets are no longer allocated.

Configuration Manager action **DEL PDSV1**, which is used to remove PDS V1 data sets after switching to PDS V2, has been updated with the names of the PDS V1 data sets for the monitoring server (*GENHISn*, *RppSGRPn*, *RPDSGRPn*).

## Product-specific updates

### IBM OMEGAMON for Storage on z/OS

The IBM OMEGAMON for Storage internal version of PDS V2 and the use of PDS V1 are no longer available. IBM OMEGAMON for Storage users must use the OMNIMON Base version of PDS V2.

Configuration Manager and PARMGEN will no longer generate member *&rhilev*.RKANPARU(KDFDINIT), which contained the setting PDS2=F0RC. This setting forced the IBM OMEGAMON for Storage version of PDS V2 to be used when the OMNIMON Base version of PDS V2 was disabled on a runtime environment level (by specifying **RTE\_PDS2\_ACTIVATION** to N). The PDS2=F0RC option is no longer supported, and the IBM OMEGAMON for Storage agent will be moved to the OMNIMON Base version of PDS V2. History data sets cannot be reused.

It is important that the KDFDINIT member is removed from RKANPARU after applying this and related APARs. You must remove KDFDINIT from EXCLUDE rules and verify that is removed from RKANPARU.

## PTF UJ09749 for APAR OA64006 (4Q22)

PTF UJ09749 for APAR OA64006 (4Q22) adds support for IBM Advanced Storage Management agents in the configuration software.

With this PTF, Configuration Manager support is added for the following IBM Advanced Storage Management (ASM) agents:

- IBM Tivoli Advanced Allocation Management for z/OS 3.3
- IBM Tivoli Automated Tape Allocation Manager for z/OS 3.3
- IBM Tivoli Advanced Backup and Recovery for z/OS 2.4

These agents can now be fully configured using Configuration Manager; all actions are supported.

In addition, these agents are enabled for persistent data store V2 (PDS V2) support in both Configuration Manager and PARMGEN.

## PTF UJ09486 for APAR OA63790 (4Q22)

PTF UJ09486 for APAR OA63790 (4Q22) adds support for IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics Agent 7.1.1 and also updates the JOBGEN table member to include a new CALLLIBS entry for IBM OMEGAMON for Storage on z/OS.

## Product-specific updates

### ITCAM for Application Diagnostics Agent 7.1.1

Support has been added for ITCAM for Application Diagnostics Agent 7.1.1 in the configuration software and includes the following updates:

- This agent is enabled for persistent data store V2 (PDS V2) support in both Configuration Manager and PARMGEN using the following parameters:
  - KYN\_PDS2\_ACTIVATION
  - KYN\_PDS2\_FILE\_COUNT
  - KYN\_PDS2\_SEC\_SIZE
  - KYN\_PDS2\_STORE\_SIZE

For more information, see [“PDS V2 parameters and members” on page 1238](#).

- The access mode that is used when creating files on z/OS UNIX™ System Services for the ITCAM for Application Diagnostics Agent 7.1.1 is now based on the value in parameter **RTE\_USS\_MKDIR\_MODE**. PARMGEN JCL job KCIJPUSS and Configuration Manager workflows have been updated accordingly.

### IBM OMEGAMON for Storage on z/OS 5.5

The JOBGEN table member has been updated with a new CALLLIBS entry for IBM OMEGAMON for Storage on z/OS 5.5 (HKS3550) for SCSFSTUB, which is used for Integrated Cryptographic Service Facility (ICSF) services.

## PTF UJ09334 for APAR OA63566 (3Q22)

PTF UJ09334 for APAR OA63566 (3Q22) adds support for IBM Advanced Storage Management agents in the configuration software.

With this PTF, Configuration Manager support is added for the following IBM Advanced Storage Management (ASM) agents:

- IBM Tivoli Advanced Catalog Management for z/OS 2.6
- IBM Tivoli Advanced Reporting and Management for DFSMSHsm 2.6
- IBM Tivoli Advanced Audit for DFSMSHsm 2.6

These agents can now be fully configured using Configuration Manager; all actions are supported.

In addition, these agents are enabled for persistent data store V2 (PDS V2) support in both Configuration Manager and PARMGEN.

## PTF UJ09236 for APAR OA63621 (3Q22)

PTF UJ09236 for APAR OA63621 (3Q22) changes the default value for the GBL\_DSN\_IMS\_RESLIB parameter and also addresses various bug fixes.

The default value for parameter `GBL_DSN_IMS_RESLIB` is now `IMS.SDFSRESL`. Previously, the default value for this parameter was `DFS.V12R0M0.SDFSRESL`.

## PTF UJ08884 for APAR OA63423 (3Q22)

PTF UJ08884 (3Q22) for cumulative APAR OA63423 introduces a new configuration option for passphrase support for the OMEGAMON 3270 Classic user interface, increased allocation sizes for Db2-related data sets, and several other enhancements for Configuration Manager and PARMGEN.

### Configuration Manager and PARMGEN updates

A new configuration option is available for passphrase support for the OMEGAMON 3270 Classic user interface. For parameter `Kpp_CLASSIC_PASSPHRASE` (where *pp* is C2, D2, I2, or M2), you can now specify the value `MAX62`, which allows you to enter up to a 62-byte passphrase value on a single line when the screen width is 80 bytes. With a wider screen size, you can specify a passphrase value up to 100 bytes long. This enhancement is a documentation-only change in Configuration Manager and PARMGEN, with the functional support provided in OMNIMON Base APAR OA62991. This update impacts the following products, each listed with its respective product code:

- OMEGAMON for CICS (C2)
- OMEGAMON for Db2 Performance Expert (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

(APAR OA63423)

### PARMGEN-only updates

Changes have been made regarding how z/OS Unix System Services processing is done in PARMGEN, impacting products IBM OMEGAMON for Messaging on z/OS (KQI) and the Tivoli Enterprise Monitoring Server (KDS). The REXX script `KCIR@USS` is now no longer used, and `KFURSH` is used instead. (APAR OA63310)

### Product-specific updates

#### OMEGAMON for Db2 Performance Expert

The following changes have been made:

- In Configuration Manager, to allow for more Db2 subsystems to be configured, the data set allocation parameter values have been increased. Specifically, the `SPACE` primary and secondary allocation size

values have been increased for the following data sets: RKD2SAM, RKD2PAR, and RKD2PRF. (APAR OA63528)

- The default values for the following parameters have been changed from RTE\_SMS\_VSAM\_\* to RTE\_SMS\_\*:
    - **KD2\_PFn\_HIS\_DYN\_\***
    - **KD2\_PFn\_HIS\_GDG\_\***
- (APAR OA63423)

#### **IBM Z OMEGAMON Network Monitor 5.6**

The following changes have been made:

- Parameters **KN3\_TCP\_ZERT** and **KN3\_TCPXNN\_OVRD\_ZERT** are no longer supported by the product. (APAR OA63423)
- Member RKANPARU(KN3SNMP) was updated to support Simple Network Management Protocol v3 (SNMPv3). It is compatible with existing SNMPv2 entries and allows you to add new entries for SNMPv3. (APAR OA63423)

## **PTF UJ08674 for APAR OA63103 (2Q22)**

The PARMGEN PTF UJ08674 (2Q22) provides support for IBM Z OMEGAMON for CICS 5.6 and IBM Z NetView Enterprise Management Agent 6.4 in Configuration Manager and PARMGEN. Additionally, the name for OMEGAMON Data Provider has been updated.

### **Product-specific updates**

#### **IBM Z OMEGAMON for CICS 5.6**

The following changes have been made:

- IBM Z OMEGAMON for CICS 5.6 was formerly known as IBM OMEGAMON for CICS on z/OS. The new name is reflected in all JCL templates, configuration members, and user interface panels, and is used regardless of the installed version of OMEGAMON for CICS.
- A set of modules has been cleaned up from the \*KANMOD libraries.
- FMID KC5560 has been added to JOBGEN.

#### **IBM Z NetView Enterprise Management Agent 6.4**

The following changes have been made:

- IBM Z NetView Enterprise Management Agent 6.4 was formerly known as IBM Tivoli NetView for z/OS Enterprise Management Agent. The new name is reflected in all JCL templates, configuration members, and user interface panels, and is used regardless of the installed version of IBM Z NetView Enterprise Management Agent.
- PDS V2 has been enabled for IBM Z NetView Enterprise Management Agent v6.4. The following parameters have been introduced:
  - **KNA\_PDS2\_ACTIVATION**
  - **KNA\_PDS2\_FILE\_COUNT**
  - **KNA\_PDS2\_SEC\_SIZE**
  - **KNA\_PDS2\_STORE\_SIZE**

For for information, see “PDS V2 parameters and members” on [page 1238](#).

#### **OMEGAMON Data Provider**

The product name has been changed from **OMNIMON Data Provider** to **OMEGAMON Data Provider** in the JOBGEN product list.

## PTF UJ08515 for APAR OA62832 (2Q22)

The PARMGEN PTF UJ08515 (2Q22) provides support for IBM OMEGAMON® for Db2® Performance Expert on z/OS 5.5 in Configuration Manager and PARMGEN.

### Product-specific updates

#### IBM OMEGAMON® for Db2® Performance Expert on z/OS 5.5

The following changes have been made:

- IBM OMEGAMON for Db2 Performance Expert on z/OS 5.5 was formerly known as IBM Tivoli® OMEGAMON XE for Db2 Performance Expert on z/OS. The new name is reflected in all JCL templates, configuration members, and user interface panels, and is used regardless of the installed version of OMEGAMON for Db2 Performance Expert or OMEGAMON for Db2 Performance Monitor.
- You can now configure an RTE to monitor IBM Db2 13 for z/OS. The following global parameters have been introduced:
  - **GBL\_DSN\_DB2\_LOADLIB\_V13**
  - **GBL\_DSN\_DB2\_RUNLIB\_V13**

In addition, the JOBGEN table has been updated to include HKDB550 SMP/E data set definitions.

**Note:** Several back-level products have been removed from JOBGEN. See the PTF HOLD TEXT for details.

- The JCL templates for Db2 EXPLAIN have been simplified. A single EXPLAIN template, EXCV#####, is now generated for Db2 versions 11, 12, and 13. This feature is enabled only when OMEGAMON for Db2 Performance Expert 5.5.0 is installed.
- Classic and static sequential Near Term History data sets can now be automatically allocated using the following new parameters:
  - **KD2\_PF\_HIS\_LOG\_NUM**
  - **KD2\_PF\_HIS\_SEQ\_LOG\_NUM**
  - **KD2\_PF\_HIS\_SEQ\_MCLAS**
  - **KD2\_PF\_HIS\_SEQ\_SCLAS**
  - **KD2\_PF\_HIS\_SEQ\_UNIT**
  - **KD2\_PF\_HIS\_SEQ\_VOLUME**
  - **KD2\_PF\_HIS\_VSAM\_MCLAS**
  - **KD2\_PF\_HIS\_VSAM\_SCLAS**
  - **KD2\_PF\_HIS\_VSAM\_VOLUME**This feature is enabled only when OMEGAMON for Db2 Performance Expert 5.5.0 is installed. For more information about these parameters, see [KD2\\_PFn\\_HIS - Near-Term History](#).
- You can control the behavior of the Near Term History collection task during startup using the new parameter **KD2\_OMPE\_OPTS\_NTHDB2I**. This parameter value is automatically added to OMPEOPTS. This new parameter can be used only when OMEGAMON for Db2 Performance Expert 5.5.0 is installed.
- The following parameters have been deprecated for all versions of OMEGAMON for Db2 Performance Expert:
  - **KD2\_OMPE\_E2E\_MON\_SPRT**
  - **KD2\_DB\_DB2\_USEFLG**
  - **KD2\_PF\_SH\_D2SHSQLC**
  - **KD2\_PF\_SH\_D2SHSQLI**

- **KD2\_PF\_READA\_SPMON**
- **KD5\_DB\_OPM\_E2ESQLHN\_TCP\_HOST**
- **KD5\_DB\_OPM\_E2ESQLPT\_PORT\_NUM**
- **KD5\_DB\_OPM\_E2ESEQUIRE\_SECURE**

These parameters are ignored by Configuration Manager and PARMGEN.

## PTF UJ08174 for APAR OA63060 (2Q22)

The PARMGEN PTF UJ08174 (2Q22) includes various bug fixes in data set allocations, merge and z/OS® UNIX® System Services-related configuration steps, and the IBM® OMEGAMON® for JVM API Archive Extract Transform utility.

### PARMGEN configuration framework enhancements and updates

The following updates have been made:

- Previously, PARMGEN would allocate extraneous data sets when parameter **KDS\_TEMS\_TYPE** was set to REMOTE. This issue has been addressed by checking the parameter value and applying conditional logic.
- When using PARMGEN, if step MERGEBKA failed in the KCIJPPRF job, WCONFIG(*rte\_name*) member contents were not merged. If you would rerun the job, it would complete successfully, but WCONFIG(*rte\_name*) contents would still remain incorrect. This issue has been corrected by taking existing members in GBL\_USER\_JCL and WCONFIG from the backup.

### Product-specific updates

#### OMEGAMON for JVM

The PARM statement in the RKANSAMU(KJJREPTJ) job template, which supports the OMEGAMON for JVM API Archive Extract Transform utility, changed from PARM= 'JSON' to PARM= ' ', as there was a parameter description in the job comment that did not match the actual statement.

#### OMEGAMON for Storage

In certain conditions, during the extract of TKANDATV(KS3RDMPZ) to the RDM Application Server ZFS Directory (RTE\_USS\_RTEDIR/KS3/*r dm*) z/OS UNIX path, this step would fail with errors indicating that permission is denied (RC=256). The target directories are now removed before re-creating them, which resolves the permission errors.

## PTF UJ08103 for APAR OA62792 (1Q22)

The PARMGEN PTF UJ08103 (1Q22) includes support for the IBM® OMEGAMON® for JVM API Archive Extract Transform utility.

### Product-specific enhancements

#### OMEGAMON for JVM

Support has been added for the IBM® OMEGAMON® for JVM API Archive Extract Transform utility. The following parameters have been introduced:

- **KJJ\_API\_DETAIL\_ARCHIVE\_FLAG**
- **KJJ\_API\_DETAIL\_ARCHIVE\_STC**

## PTF UJ07786 for APAR OA62833 (1Q22)

The PARMGEN PTF UJ07786 (1Q22) includes an update to encryption setup.

### PARMGEN configuration framework enhancements and updates

To generate the KAES256 encryption key, PARMGEN was using the KGLCRYUT module from the TKANMOD library, but this module does not support Extended Address Volumes (EAV). To support KAES256 key

generation on EAV, module KGLCRYWR has been created in library TKANMODP. The respective PARMGEN JCL templates have been updated to use module KGLCRYWR, accordingly.

## PTF UJ07639 for APAR OA62526 (1Q22)

The PARMGEN PTF UJ07639 (1Q22) corrects an error in PDS V1 program logic.

### PARMGEN configuration framework enhancements and updates

There was an issue where PARMGEN produced truncated output in a PDS V1 REXX script if the data set name in parameter `GBL_DSN_SYS1_PARMLIB` was too long. The PDS V1 REXX script in member KDSJPUPD has been modified to fit data set names up to 44 characters.

## What's new in OMEGAMON products and components

Find the what's new topics for the latest OMEGAMON products and components.

<i>Table 5: What's new in OMEGAMON products and components</i>	
<b>Product or component name</b>	<b>What's new topic</b>
IBM Z® OMEGAMON® AI for CICS 6.1	<a href="#">What's new in IBM Z OMEGAMON AI for CICS 6.1</a> <a href="#">What's new in IBM Z OMEGAMON AI for CICS TG 6.1</a>
IBM Z® OMEGAMON® AI for Db2 6.1	<a href="#">What's new in OMEGAMON AI for Db2</a>
IBM® OMEGAMON for IMS on z/OS 5.5	<a href="#">What's new in V5.5.0</a>
IBM Z® OMEGAMON® AI for JVM, 6.1	<a href="#">What's new in IBM Z OMEGAMON AI for JVM, 6.1.0</a>
IBM® OMEGAMON for Messaging on z/OS 7.5.0	<a href="#">New in version 7.5</a>
IBM® OMEGAMON for Networks on z/OS 5.5.1	<a href="#">What's New in IBM OMEGAMON for Networks on z/OS</a>
IBM Z® OMEGAMON® AI for Networks 6.1	<a href="#">What's new in IBM® Z OMEGAMON® AI for Networks</a>
IBM Z® OMEGAMON AI for Storage 6.1	<a href="#">What's new in IBM Z OMEGAMON AI for Storage 6.1</a>
IBM® OMEGAMON for z/OS 5.5.1	<a href="#">What's New in IBM OMEGAMON for z/OS</a>
IBM Z® OMEGAMON® AI for z/OS® 6.1	<a href="#">What's new in IBM® Z OMEGAMON® AI for z/OS®</a>
IBM OMEGAMON enhanced 3270 user interface	You can access a list of the latest features and enhancements using the online help within the OMEGAMON enhanced 3270 user interface by expanding the <b>HELP</b> menu and selecting <b>W Whats New</b> .
IBM Z OMEGAMON Integration Monitor 5.6	<a href="#">What's new in IBM Z OMEGAMON Integration Monitor</a>
IBM Z OMEGAMON Data Provider 1.1	<a href="#">What's new in OMEGAMON Data Provider</a>
IBM Z OMEGAMON AI Insights 2.2	<a href="#">What's new in IBM Z OMEGAMON AI Insights 2.2</a>
IBM Z OMEGAMON Web UI 2.1	<a href="#">IBM Z OMEGAMON Web UI</a>
IBM Discovery Library Adapter for z/OS 3.2	<a href="#">What's new</a>
IBM® NetView for z/OS Agent 6.5	<a href="#">Summary of changes for the NetView V6R5 Program</a>
System Automation Monitoring Agent 3.5.0	<a href="#">New Information</a>
IBM Z Monitoring Suite 2.3	<a href="#">What's new in IBM Z Monitoring Suite 2.3</a>
IBM Z Service Management Suite 3.3	<a href="#">Summary of changes in 3.3.0</a>
IBM Z Integration for Observability 6.3	<a href="#">Summary of changes in 6.3.0</a>
IBM Z Storage Management Suite 3.1	<a href="#">IBM Z Storage Management Suite 3.1 component products</a>

## Where to find information

Use this section to locate information for products or parameters that use Tivoli Management Services and are configured using IBM Z Monitoring Configuration Manager (Monitoring Configuration Manager or Configuration Manager) or Parameter Generator (PARMGEN).

Links to content are provided where available.

## OMEGAMON product codes and documentation

The following table provides links to the documentation and lists the configuration parameter prefixes for the supported OMEGAMON products. The parameters are documented within the documentation for the respective product. Links to parameter references are provided where available.

Type of subsystem monitored	Component or agent	Version	Parameter prefix
various	<a href="#">IBM OMEGAMON Dashboard Edition on z/OS</a>	5.5.0	KMV, KWO
various	<a href="#">IBM Z OMEGAMON Integration Monitor</a>	5.6.0	KWO
various	<a href="#">IBM Z Monitoring Suite</a>	1.4.x	various
various	<a href="#">IBM Z Monitoring Suite</a>	2.1.x	various
various	<a href="#">IBM Z Monitoring Suite</a>	2.2.0	various
various	<a href="#">IBM Z Monitoring Suite</a>	2.2.1	various
various	<a href="#">IBM Z Monitoring Suite</a>	2.3.0	various
various	<a href="#">IBM Z OMEGAMON Data Provider</a>	1.1.0	KAY
JVM, Network, z/OS	<a href="#">IBM Z OMEGAMON AI Insights</a>	1.1.0	KMU
CICS, JVM, Network, Storage, z/OS	<a href="#">IBM Z OMEGAMON AI Insights</a>	2.1.0	KMU
CICS, Db2, JVM, Network, Storage, z/OS	<a href="#">IBM Z OMEGAMON AI Insights</a>	2.2.0	KMU
CICS	<a href="#">IBM Z OMEGAMON for CICS</a>	5.5.0	KC2, KC5, KGW
CICS	<a href="#">IBM Z OMEGAMON for CICS</a>	5.6.0	KC2, KC5, KGW
CICS	<a href="#">IBM Z OMEGAMON AI for CICS</a>	6.1.0	KC2, KC5, KGW
Db2	<a href="#">IBM Tivoli OMEGAMON XE for Db2 Performance Expert on z/OS</a>	5.4.0	KD2, KD5
Db2	<a href="#">IBM Tivoli OMEGAMON XE for Db2 Performance Monitor on z/OS</a>	5.4.0	KD2, KD5
Db2	<a href="#">IBM OMEGAMON for Db2 Performance Expert on z/OS</a>	5.5.0	KD2, KD5
Db2	<a href="#">IBM Z OMEGAMON AI for Db2</a>	6.1.0	KD2, KD5
IMS	<a href="#">IBM OMEGAMON for IMS on z/OS</a>	5.5.0	KI2, KI5
Integration Bus	<a href="#">IBM OMEGAMON for Messaging on z/OS</a>	7.5.0	KOI
JVM	<a href="#">IBM OMEGAMON for JVM on z/OS</a>	5.4.0	KJJ
JVM	<a href="#">IBM Z OMEGAMON for JVM</a>	5.5.0	KJJ
JVM	<a href="#">IBM Z OMEGAMON Runtime Edition for JVM</a>	5.5.0	KJJ

Type of subsystem monitored	Component or agent	Version	Parameter prefix
JVM	<a href="#">IBM Z OMEGAMON AI for JVM</a>	6.1.0	<a href="#">KJJ</a>
MQ	<a href="#">IBM OMEGAMON for Messaging on z/OS</a>	7.5.0	<a href="#">KMQ</a>
MQ Configuration	<a href="#">IBM OMEGAMON for Messaging on z/OS</a>	7.3.0	<a href="#">KMC<sup>2</sup></a>
Network	<a href="#">IBM OMEGAMON for Networks on z/OS</a>	5.5.1	<a href="#">KN3</a>
Network	<a href="#">IBM Z OMEGAMON Network Monitor</a>	5.6.0	<a href="#">KN3</a>
Network	<a href="#">IBM Z OMEGAMON AI for Networks</a>	6.1.0	<a href="#">KN3</a>
Storage	<a href="#">IBM OMEGAMON for Storage on z/OS</a>	5.5.0	<a href="#">KDF, KS3</a>
Storage	<a href="#">IBM Z OMEGAMON AI for Storage</a>	6.1.0	<a href="#">KDF, KS3</a>
z/OS	<a href="#">IBM OMEGAMON for z/OS</a>	5.5.1	<a href="#">KM2, KM5</a>
z/OS	<a href="#">IBM Z OMEGAMON Monitor for z/OS</a>	5.6.0	<a href="#">KM2, KM5</a>
z/OS	<a href="#">IBM Z OMEGAMON AI for z/OS</a>	6.1.0	<a href="#">KM2, KM5</a>

### Related links

- [“Product codes” on page 1256](#)
- [“Program Directories” on page 190](#)
- [“Complete the configuration for OMEGAMON monitoring agents and components” on page 556](#)

## Tivoli Management Services shared component codes and documentation

The following table shows where to find more information about the configuration parameters for the Tivoli Management Services common components. These parameters are documented in the *OMEGAMON shared documentation*.

<i>Table 7: Configuration parameters for Tivoli Management Services common components</i>		
Component or agent	Latest version	Parameter prefix
<a href="#">Common agents</a>	6.4	<a href="#">Kpp, KAG</a>
<a href="#">Global</a>	6.4	<a href="#">GBL</a>
<a href="#">Runtime environment (RTE)</a>	6.4	<a href="#">RTE</a>
<a href="#">Tivoli Enterprise Monitoring Server (TEMS)</a>	6.4	<a href="#">KDS</a>
<a href="#">OMEGAMON enhanced 3270 user interface</a>	7.5.0	<a href="#">KOB</a>

## Other product/agent codes and documentation

The following table shows where to find more information about the additional products/agents that are managed under the Tivoli Management Services infrastructure.

<i>Table 8: Configuration parameters for other products/agents</i>		
Component or agent	Latest version	Parameter prefix
<a href="#">IBM Advanced Archive for DFSMSHsm</a>	1.1.0	
<a href="#">IBM Cloud Tape Connector for z/OS</a>	1.1.0	
<a href="#">IBM Db2 Buffer Pool Analyzer</a>	5.3.0	

<sup>2</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

Component or agent	Latest version	Parameter prefix
<a href="#">IBM Tivoli Advanced Allocation Management for z/OS</a>	3.3	KRJ
<a href="#">IBM Tivoli Advanced Audit for DFSMSHsm</a>	2.6.0	KRG
<a href="#">IBM Tivoli Advanced Backup and Recovery for z/OS</a>	2.4	KRV
<a href="#">IBM Tivoli Advanced Catalog Management for z/OS</a>	2.6	KRN
<a href="#">IBM Tivoli Advanced Reporting and Management for DFSMSHsm</a>	2.6.0	KRH
<a href="#">IBM Tivoli Advanced VSAM Manager for z/OS</a>	2.6.0	
<a href="#">IBM Tivoli Automated Tape Allocation Manager for z/OS</a>	3.3	KRK
<a href="#">IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics</a>	7.1.1	KYN
<a href="#">IBM Tivoli Composite Application Manager for SOA</a>	7.2.1.2	KD4
<a href="#">IBM Tivoli Decision Support for z/OS</a>	1.9.0	KDO
<a href="#">IBM Discovery Library Adapter for z/OS</a>	3.2	
<a href="#">IBM Tivoli Tape Optimizer for z/OS</a>	2.2	KRW
<a href="#">IBM Z NetView</a>	6.5	KNA
<a href="#">IBM Z System Automation for z/OS</a>	4.2	KAH

### Related links

- [“Product codes” on page 1256](#)
- [“Program Directories” on page 190](#)

# OMEGAMON products and IBM Tivoli Management Services on z/OS

The OMEGAMON® products are a suite of products used to monitor and manage sophisticated mainframe applications and environments. The OMEGAMON products share a common technology, Tivoli® Management Services on z/OS. They also share a set of common components.

## Tivoli Management Services components

The OMEGAMON suite of products uses the Tivoli® Management Services infrastructure, which provides security, data transfer and storage, notification mechanisms, user interface presentation, and communication services for products in the IBM® Tivoli® Monitoring and IBM® OMEGAMON suites.

“Figure: Architecture” on page 54 shows a simple topology of the various principal components that form the Tivoli® Management Services and OMEGAMON monitoring infrastructure, and how they interact with each other.

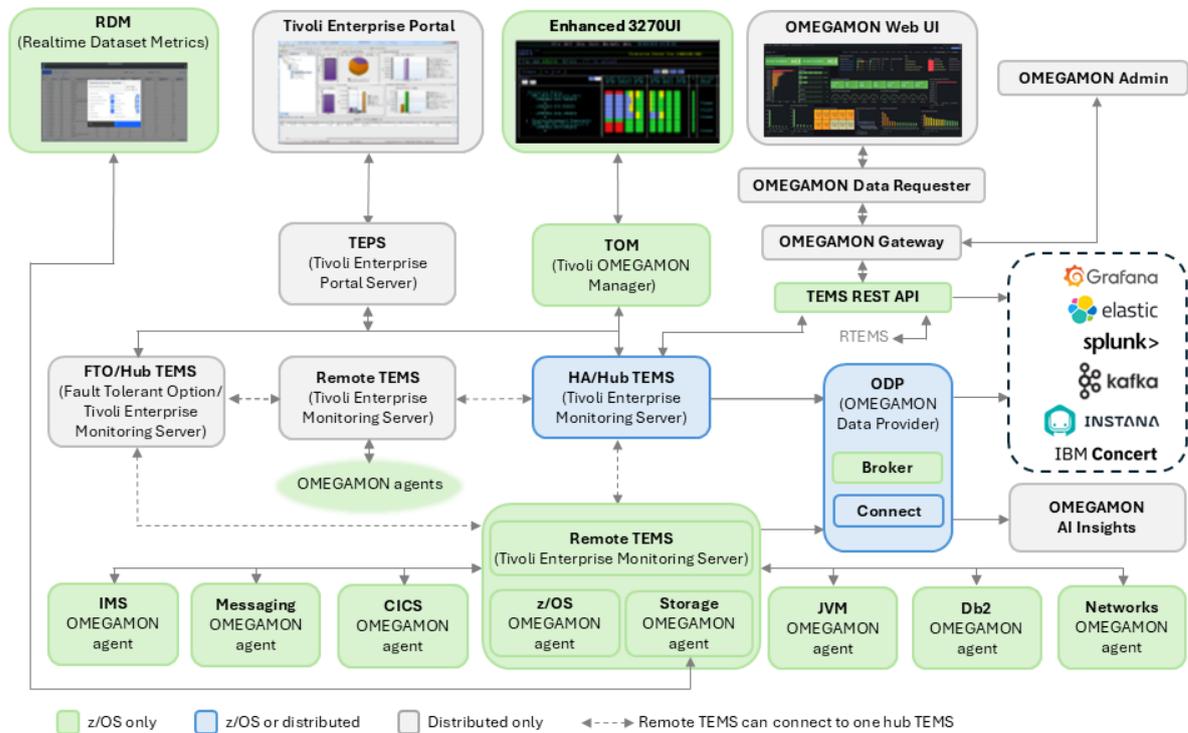


Figure 1: Architecture

**Note:** Not all the Tivoli® Management Services and OMEGAMON components in “Figure: Architecture” on page 54 are required for all customer environments. For example, you do not have to have a Tivoli Enterprise Portal Server installed in your environment to run OMEGAMON on z/OS® and use the OMEGAMON® enhanced 3270 user interface to view data. However, if you enable the self-describing agent feature provided by Tivoli® Management Services, the Tivoli® Enterprise Services user interface extension is required to control the administration of the self-describing agent feature. This component provides the tacmd command-line utility to interact with a monitoring server. This component is available on the IBM® Tivoli® Monitoring DVD image that is referenced in the *IBM® OMEGAMON Monitoring Agents on z/OS Quick Start Guide*.

## Tivoli Enterprise Monitoring Server

Tivoli Enterprise Monitoring Server (also called the *monitoring server*) is the nerve center of Tivoli Management Services.

The monitoring server performs the following tasks:

- Consolidates the data collected by monitoring agents and distributes the data to the connected clients (OMEGAMON® enhanced 3270 user interface and Tivoli Enterprise Portal Server).
- Manages the connection status of the monitoring agents.
- Receives commands from the connected clients and distributes them to the appropriate monitoring agents.
- Sends alerts to the connected clients when specified availability and performance problems are detected.
- Stores historical data and configuration prototypes.

Based on different functions in the monitoring systems, there are two monitoring server types:

- The *hub monitoring server* is the central monitoring server, acting as the focal point for data collection and distribution. It communicates with monitoring agents, with the OMEGAMON® enhanced 3270 user interface, with the Tivoli Enterprise Portal Server, and with the Warehouse Proxy and Summarization and Pruning agents (see [“Tivoli Data Warehouse” on page 56](#)).
- The *remote monitoring server* is remote only with respect to the hub monitoring server, not with respect to the monitoring agents. Remote monitoring servers communicate only with the monitoring agents that report to them and with the hub monitoring server to which the monitoring servers report.

Monitoring servers can run on z/OS®, Windows™, AIX®, Solaris, or Linux™ systems.

## OMEGAMON® Enhanced 3270 user interface

The OMEGAMON® Enhanced 3270 user interface component represents the latest generation of 3270 interfaces for the OMEGAMON® family of monitoring products. The new interface preserves many of the valued features of the earlier 3270-based interfaces, but extends the functionality to include many new features including cross-system, cross-plex, and cross-product reporting.

The OMEGAMON® enhanced 3270 user interface component enables you to monitor the performance of your z/OS systems, applications, and devices in your environment and helps you identify and troubleshoot problems with those monitored resources. In the interface, data is presented in workspaces and subpanels in which the collected data and relevant information is displayed. You can quickly and easily diagnose problems with monitored resources and take action to correct them. You can also customize the workspaces to suit your requirements, and even design and create your own workspaces and navigation.

For more information about the interface, see [“OMEGAMON enhanced 3270 user interface” on page 890](#).

## Tivoli Enterprise Portal Server and clients

The Tivoli Enterprise Portal and the Tivoli Enterprise Portal Server work together to provide access to real-time and historical data collected by the monitoring agents.

Tivoli Enterprise Portal (also called the *portal* or the *portal client*) is the distributed user interface for products using Tivoli Management Services. The Tivoli Enterprise Portal is a thin Java™ client application. It has its own server, the Tivoli® Enterprise Portal Server, that communicates with the hub monitoring server to send requests to and retrieve data from monitoring agents on managed systems. Tivoli® Enterprise Portal Server (the *portal server*) builds and formats the portal workspaces that display real-time and historical data collected by the monitoring agents. The portal server can run on Windows™, AIX®, or Linux™ systems and can also run as a Docker [container](#).

You can access the portal client in any of the following ways:

- Browser client (Internet Explorer or Mozilla Firefox on Windows™, Linux™, or AIX®) connected to a web server embedded in the portal server.
- Desktop client installed on a Windows™ or Linux™ system.
- Desktop client downloaded and run by IBM® Web Start for Java™, and updated at every startup.

**Note:** You can also use Open Web Launch, an open-source Java Web Start replacement, to run your Tivoli Enterprise Portal client. For more information, see [“Open Web Launch” on page 1186](#).

For setup information about the portal server and client, see the *IBM Tivoli Monitoring: Installation and Setup Guide*.

The portal server also includes the optional dashboard data provider which is used by Dashboard Application Services Hub to retrieve read-only monitoring data from the hub monitoring server and monitoring agents. Dashboard Application Services Hub can display this data in monitoring dashboard applications such as the IBM Infrastructure Management Dashboards for Servers or in custom dashboards.

## Monitoring agents

OMEGAMON monitoring agent products are available for systems, database products, and applications.

Monitoring agents are located on monitored, or *managed*, systems. The agents pass the system or application data they collect to a Tivoli Enterprise Monitoring Server, and the data is passed to a connected client user interface (OMEGAMON® enhanced 3270 user interface or the Tivoli Enterprise Portal). Monitoring agents can also sample data at specified intervals and store it for short-term historical collection, which can then be transferred to a Tivoli Data Warehouse. Finally, the monitoring agents can also compare the current values of monitored properties against a set of defined conditions and thresholds, and trigger alerts or actions when the current values match the defined conditions or surpass the thresholds.

See the following topics for the available OMEGAMON monitoring agents and other agents that are managed under the Tivoli Management Services infrastructure:

- [“OMEGAMON products” on page 11](#)
- [“Other product/agent codes and documentation” on page 52](#)

## Tivoli Data Warehouse

Tivoli Data Warehouse, an optional component of Tivoli Management Services, is a long-term data store for the performance and analysis data collected by the monitoring agents. The *Warehouse Proxy agent* periodically receives data from the hub monitoring server or from the monitoring agents and inserts the data into the Tivoli Data Warehouse. On a z/OS® system, short-term history data for monitoring agents is maintained in data sets allocated and initialized during product configuration. The Warehouse Proxy agent receives the short-term history data and delivers it to the warehouse.

Two specialized agents interact with the Tivoli Data Warehouse:

- The Warehouse Proxy agent receives the short-term history data and delivers it to the Tivoli Data Warehouse.
- You can use the Summarization and Pruning agent to customize how long to save (pruning) and how often to aggregate (summarization) the data in the Tivoli Data Warehouse database.

The Tivoli Data Warehouse, the Warehouse Proxy agent, and the Summarization and Pruning agent can run on Windows™, AIX®, Solaris, or Linux™ systems. The Tivoli Data Warehouse can also run on z/OS®. For more information, see [IBM Tivoli Monitoring: Installation and Setup Guide](#) and [IBM Tivoli Monitoring: Administrator's Guide](#).

## TMS:Engine

TMS:Engine provides common functions such as communications, multithreaded runtime services, tracing, and logging for the monitoring server and monitoring agents on z/OS®.

This shared component enables common portable code to make platform-independent system calls. This allows Tivoli Enterprise Monitoring Server code to be compiled for and executed on z/OS®, Windows™, Linux™, and UNIX™ platforms.

## Event synchronization component

The event synchronization component sends updates to situation events that have been forwarded to a Tivoli Enterprise Console® event server or an IBM® Tivoli® Netcool®/OMNIBus ObjectServer back to the monitoring server. In the Tivoli Enterprise Portal, the Situation Event Console, the Common Event Console and the Tivoli Enterprise Console® event views are synchronized with the updated status of the events.

For information about the various configurations of monitoring servers and event servers that you can have in your environment, see the *IBM Tivoli Monitoring: Installation and Setup Guide*.

You can set up stand-alone monitoring agents (those that are configured in their own address spaces) to run in autonomous mode (without communicating directly with a monitoring server). An autonomous agent can emit Simple Network Management Protocol (SNMP) traps and Event Integration Facility (EIF) events directly to a Netcool®/OMNIBus ObjectServer for agent-specific situations (but not for enterprise situations).

The *IBM Tivoli Monitoring: Installation and Setup Guide* provides instructions for configuring Netcool®/OMNIBus ObjectServers to receive the events. For information on specifying which situation events to forward, see the Tivoli Enterprise Portal online help and the *IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide*. For detailed information about configuring and managing autonomous agents, see the “Agent autonomy” topics in the *IBM Tivoli Monitoring: Administrator's Guide*.

## Tivoli Enterprise Portal Server extended services

Tivoli Enterprise Portal Server extended services (TEPS/e) is an embedded, co-located extension of the Tivoli Enterprise Portal Server that provides J2EE-based Application Server integration facilities. TEPS/e provides support for a federated user repository. For more information about TEPS/e, see the *IBM Tivoli Monitoring: Administrator's Guide*.

## Tivoli® Enterprise Monitoring Automation Server, Registry Services, and OSLC clients

The Tivoli® Enterprise Monitoring Automation Server is an optional component that can be installed on the same system as the hub Tivoli® Enterprise Monitoring Server. The automation server is not supported if the hub monitoring server is installed on a z/OS® system.

The automation server includes the Open Services Lifecycle Collaboration Performance Monitoring (OSLC-PM) service provider. The Performance Monitoring service provider registers monitoring resources such as computer systems, software servers, and databases with the Registry Services. Registry Services is a Jazz™ for Service Management integration service that provides a shared data repository for products in an integrated service management environment. Products that discover and manage shared IT resources can register these IT resources and the services they offer with Registry Services. Other products acting as OSLC clients can use linked data interfaces to consume data by querying Registry Services for the managed resources or the associated service providers of interest. In the query responses, Registry Services return links to the service providers that can be queried to retrieve more information about the managed resources.

The Performance Monitoring service provider also supports the OSLC-PM RESTful API for retrieving linked data about monitored resources. It accommodates HTTP GET requests for the RDF/XML, compact XML and HTML content types. When RDF/XML and HTML content is requested, the API returns resource metrics defined by the OSLC-PM domain.

Each agent that supports registration of monitored resources includes an OSLC template in their monitoring server application support. This template is used by the Performance Monitoring service provider to determine which resources to register and what metrics are available for the resources. The IBM® Tivoli® Monitoring distributed OS agents provide templates to register ComputerSystems and IPAddress resources. See the user guide for each of your agents to determine if they also provide an OSLC template.

Install and configure the Tivoli® Monitoring Automation Server if your monitoring environment has agents that provide an OSLC template and you want to integrate IBM® Tivoli® Monitoring with other products using Registry Services and OSLC linked data interfaces. See the *IBM® Tivoli® Monitoring Administrator's Guide* to find more information on the Performance Monitoring service provider and getting started with OSLC integration. The automation server can be installed on Windows™, Linux™, AIX® and Solaris systems.

Registry Services can be installed on Windows™, Linux™, and AIX® systems.

## IBM® Dashboard Application Services Hub, dashboard applications, Tivoli® Authorization Policy Server, and IBM Cognos®

The Dashboard Application Services Hub is a Jazz™ for Service Management component. The Hub is an optional component for your environment that provides a web-based console component for common task navigation for products, aggregation of data from multiple products into a single view, and message passing between views from different products.

The IBM® Tivoli® Monitoring dashboard data provider retrieves monitoring agent data for display in the Dashboard Application Services Hub. The dashboard data provider is optionally enabled during the Tivoli® Enterprise Portal Server configuration. With the dashboard data provider enabled, Dashboard Application Services Hub users can retrieve read-only data from the hub monitoring server and monitoring agent for display in monitoring dashboards such as the IBM® Infrastructure Management Dashboards for Servers or in custom dashboards. The IBM® Tivoli® Monitoring Authorization Policy Server can also be installed into the Dashboard Application Services Hub. The Authorization Policy Server allows you to define roles and permissions, which control the access that dashboard users have to managed systems and managed system groups displayed in monitoring dashboards of the IBM® Dashboard Application Services Hub. The `tivcmd` command line interface for Authorization Policy is used to connect to the Authorization Policy Server and create and work with the policies.

Dashboard Application Services Hub can also be used in conjunction with the IBM Cognos® component of Jazz™ for Service Management to gather, analyze, and report important trends in your managed environment using historical data from the Tivoli® Data Warehouse.

Install and configure IBM® Dashboard Application Services Hub if you will be using monitoring dashboards in your environment. Check the user guides for the monitoring agents in your environment to determine if they provide a monitoring dashboard application. You can also use Dashboard Application Services Hub to create custom dashboard pages showing data from any monitoring agents in your environment. IBM® Dashboard Application Services Hub is supported on 64-bit Windows™, Linux™, and AIX® systems.

## Tivoli Enterprise Monitoring Server REST services

Tivoli Enterprise Monitoring Server (TEMS) REST services provide access to OMEGAMON data using HTTP REST calls.

Tivoli Enterprise Monitoring Server (TEMS) REST services provide access to OMEGAMON data using HTTP REST calls. Using the TEMS REST services, you can retrieve real-time and historical data collected by the monitoring agents, the configurations used for collecting the historical data, select managed system information, and information about situations. You can also perform activities such as starting, stopping, creating, editing, and deleting situations; executing or deleting a Take Action; and deleting a history collection configuration.

Using TEMS REST services, you can integrate OMEGAMON data into your custom applications, including dashboards and automation, or third-party analytical tools (such as Splunk, Elastic, and Grafana).

TEMS REST services are implemented with the OpenAPI Specification 3.0.3.

For more information, see [“Tivoli Enterprise Monitoring Server REST services” on page 1080](#).

## IBM Z® OMEGAMON® AI Insights

IBM Z OMEGAMON AI Insights is designed to detect and visualize performance anomalies within z/OS components and applications. It uses advanced machine learning algorithms embedded in its code to analyze data.

You can analyze data that is collected from any of the following OMEGAMON monitoring agents:

- IBM Z OMEGAMON AI for CICS 6.1
- IBM Z OMEGAMON AI for Db2 6.1
- IBM Z OMEGAMON AI for JVM, 6.1
- IBM Z OMEGAMON AI for Networks 6.1
- IBM Z OMEGAMON AI for Storage 6.1
- IBM Z OMEGAMON AI for z/OS 6.1

These agents monitor the behavior of applications and components by tracking various performance metrics. In the process, they collect enormous amounts of data that are passed to OMEGAMON AI Insights. With this data, OMEGAMON AI Insights can arrive at models that predict the seasonality of various key performance indicators across different types of workloads.

For more information, see [IBM Z OMEGAMON AI Insights](#).

**Note:** Starting with Tivoli® Management Services on z/OS® 6.3.3, IBM Z OMEGAMON AI Insights is included as a component. With IBM Z OMEGAMON AI Insights 2.1, the application is now containerized and deployed as a Docker container.

## IBM Z® OMEGAMON® Web UI

IBM Z OMEGAMON Web UI is a browser-based graphical user interface for monitoring and managing z/OS systems using data from OMEGAMON monitoring agents. IBM Z OMEGAMON Web UI requires IBM Z OMEGAMON Data Requester, a Grafana® application plug-in.

IBM Z OMEGAMON Web UI uses Grafana dashboards to provide visualization and analysis of performance data gathered by OMEGAMON monitoring agents. IBM Z OMEGAMON Web UI provides the following key capabilities:

- Web-based monitoring: Provides access to OMEGAMON performance data from any supported web browser.
- Situations management: Allows you to create, view, and manage alert conditions to identify and respond to critical issues.
- Role-based access control: Allows you to secure dashboards and situations through role-specific permissions.
- Customizable dashboards: Allows you to design and share personalized views tailored to specific monitoring needs.
- Integrated architecture: Enables communication between the Tivoli Enterprise Monitoring Server and Grafana using the OMEGAMON Gateway.
- Administrative user interface: Simplifies configuration and automation of monitored environments.
- OMEGAMON Data Requester: Retrieves and filters real-time and historical data.
- Dashboards: Provide real-time and historical visualization of performance metrics of all OMEGAMON monitoring agents.

For more information, including system requirements and installation steps, see [IBM Z OMEGAMON Web UI](#).

**Note:** Starting with Tivoli® Management Services on z/OS® 6.4, IBM Z OMEGAMON Web UI and Grafana are included as components.

## OMEGAMON shared components

OMEGAMON® monitoring agents on z/OS® share several common components, which are included on the product tape. If you install into an existing environment, with the components at the required level, you might have to delete the FMIDs for these components from the SMP/E installation jobs to avoid errors because the components are already installed. See the *Program Directory* for each product for more information.

“[Common components of OMEGAMON® monitoring agents on z/OS®](#)” on page 60) lists the common z/OS® components.

<i>Table 9: Common components of OMEGAMON® monitoring agents on z/OS®</i>	
<b>Component</b>	<b>Description</b>
OMNIMON Base	<p>A set of common code used by several OMEGAMON® components and the OMEGAMON® enhanced 3270 user interface to control initialization, security, and I/O for all sessions. OMNIMON Base has two components:</p> <ul style="list-style-type: none"> <li>• <b>OMEGAMON® Subsystem</b> The OMEGAMON® Subsystem is a z/OS® subsystem that runs in its own address space. The subsystem enables OMEGAMON® components running in other address spaces to monitor dynamic device activity. A single OMEGAMON® Subsystem can support multiple OMEGAMON® products on a single z/OS® image. Some OMEGAMON® monitoring products, such as OMEGAMON® for Networks, do not use the OMEGAMON® Subsystem.</li> <li>• <b>OMEGAMON® enhanced 3270 user interface</b> An enhanced 3270-based user interface that collects and displays data from the Tivoli Enterprise Monitoring Server and OMEGAMON® monitoring agents on z/OS®. One instance of the interface must be installed in each Sysplex for use by all supporting agents.</li> </ul>
Shared probes	Data probes shared by several OMEGAMON® products.
End-to-End Response Time collector	Provides response time data for several OMEGAMON® products.

## Interoperability and integration with other products

The OMEGAMON® family of monitoring agents are designed to integrate with each other and with other products that use Tivoli Management Services. These products exploit the power of the Tivoli Enterprise Portal to integrate and correlate performance and availability information from a variety of sources.

For example, you can create context-sensitive links between product workspaces to obtain additional information about systems, subsystems, resources, or network components that are being monitored by other monitoring agents. You can also create links from Tivoli Enterprise Portal workspaces to TN3270-based applications. Additionally, if you have purchased IBM® OMEGAMON® Dashboard Edition on z/OS®, you can create custom Tivoli Enterprise Portal workspaces composed of data from a range of Tivoli® monitoring solutions (IBM® Tivoli® Monitoring, IBM® Tivoli® Composite Application Management, IBM Z® NetView, and OMEGAMON® products). You can use OMEGAMON® Dashboard to display metrics from operating systems, middleware, databases, storage, web application servers, and network sources for integrated performance views on a single screen.

After you install OMEGAMON Dashboard Edition, you can set up Tivoli Enterprise Portal workspaces that display data collected by more than one OMEGAMON product or that integrate OMEGAMON data with data from other products that use the Tivoli Enterprise Portal. You can create a consolidated situation for a combination of products. You can also use OMEGAMON Dashboard Edition on z/OS to set up advanced automation policies for notification and resolution of complex problems. For further information about the components and capabilities of OMEGAMON Dashboard Edition on z/OS, see [IBM OMEGAMON Dashboard Edition on z/OS](#).

Additionally, OMEGAMON® products are being integrated with an increasing number of other IBM® products. You can generate reports using IBM Cognos®, which gathers data collected by OMEGAMON® products and presents results in a format allowing the analysis of trends and key metrics in a consistent and integrated manner. Situation events reported by OMEGAMON® monitoring agents can be forwarded to Tivoli® Netcool/OMNIBus™ for event correlation and management. From the Tivoli Enterprise Portal, you can launch into other web-based or web-enabled Tivoli® applications without having to re-enter user credentials, and you can launch in context into the Tivoli Enterprise Portal from other applications, as well.

For more information on product integration, see the user's guides for your products.

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# Getting started

Getting an overview of the entire process, gathering certain information, and accomplishing certain tasks even before you acquire and install your software can make your deployment go much more quickly and smoothly.

## Quick Start Guide

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This guide describes the process for installing an OMEGAMON monitoring agent on z/OS.

### OMEGAMON product overview

The IBM® OMEGAMON® monitoring agents on z/OS® are a suite of products that you can run with the commonly shared components of Tivoli® Management Services.

These agents monitor and manage system and network applications to track the availability and performance of systems and resources in your enterprise. You can access the data collected by the agents using the following user interfaces:

- The OMEGAMON enhanced 3270 user interface provides predefined workspaces that you can use to monitor the performance of the z/OS systems, applications, and devices in your environment.
- IBM Z OMEGAMON Web UI uses Grafana dashboards to provide visualization and analysis of performance data gathered by OMEGAMON monitoring agents.
- The Tivoli Enterprise Portal user interface offers expert advice on alerts and corrective actions from one or more designated workstations.

This document describes the procedure for installing a monitoring agent on z/OS® for the following releases:

- IBM Z OMEGAMON AI for CICS 6.1
- IBM Z OMEGAMON AI for Db2 6.1
- IBM OMEGAMON for IMS on z/OS 5.5
- IBM Z OMEGAMON AI for Networks 6.1
- IBM OMEGAMON for Messaging on z/OS 7.5
- IBM Z OMEGAMON AI for Storage 6.1
- IBM Z OMEGAMON AI for z/OS 6.1
- IBM Z OMEGAMON AI for JVM 6.1

You can also install the following OMEGAMON component releases:

- IBM Z OMEGAMON AI Insights 2.2
- IBM Z OMEGAMON Web UI 2.1
- IBM Z OMEGAMON Data Provider 1.1

If you are upgrading a monitoring agent and Tivoli® Management Services, see [Upgrading](#) in the OMEGAMON® shared documentation. If you have not done so already, gather the information described in the [Pre-installation requirements and checklist](#).

Product documentation is available in [IBM Documentation](#). Always refer to the version of the documentation that is consistent with the version of the software that you have installed.

### Step 1: Access the software and documentation

Use this information to access the software and documentation necessary to install OMEGAMON agents.

An OMEGAMON® monitoring agent on z/OS® product package includes the following items:

- z/OS® FMIDs (function modification identifiers) either on tape or in electronic format. Product tapes are in Custom-Built Product Delivery Offering (CBPDO) or ServerPac format and contain product-specific FMIDs
- Physical CDs or DVDs, or electronic CD or DVD images that are required for some core product functions

For each monitoring agent, you receive the following product resources:

- Product-specific license information and the IBM® International Program License Agreement (IPLA)
- Tivoli® Management Services on z/OS® (5698-A79) FMIDs, which are a prerequisite and packaged separately from the agent

**Note:** Tivoli Management Services on z/OS 6.3.0 Fix Pack 6 (or later) is a prerequisite for the OMEGAMON products listed in [“OMEGAMON product overview” on page 61](#). The latest available version of Tivoli® Management Services on z/OS® is 6.4.0, which includes updates and maintenance that you might want or are required for the latest features. Tivoli Management Services on z/OS 6.3.0, 6.3.1, and 6.3.2 have been withdrawn from marketing by IBM.

- Application and language support, which includes the predefined workspaces and situations, online help, expert advice, and other OMEGAMON® data, for the z/OS agents. Application support information, including the latest media levels, is available at [Locating IBM Z Monitoring Suite Application Support Files](#).

**Note:** For earlier OMEGAMON product releases, see [Locating ITM Workspace Application Support Files for z/OS Agents](#).

Program Directories provide information about installing each component. All z/OS® product Program Directories are available as PDF files and can be viewed, downloaded, and printed from [Program Directories](#). Program Directories are also provided in the fulfillment offerings such as CBPDO, ServerPac, and SystemPac®. You can also find links to Program Directories in the documentation for each product.

Each monitoring agent includes the latest level of all product materials. Review the packing list that comes with the product. If you are missing materials or need additional materials, contact IBM® Support.

Distributed fixes and updates for monitoring agents can be found on [Fix Central](#). A registered IBMid is required to download fixes from this site and to enable IBM® to inform you of related updates.

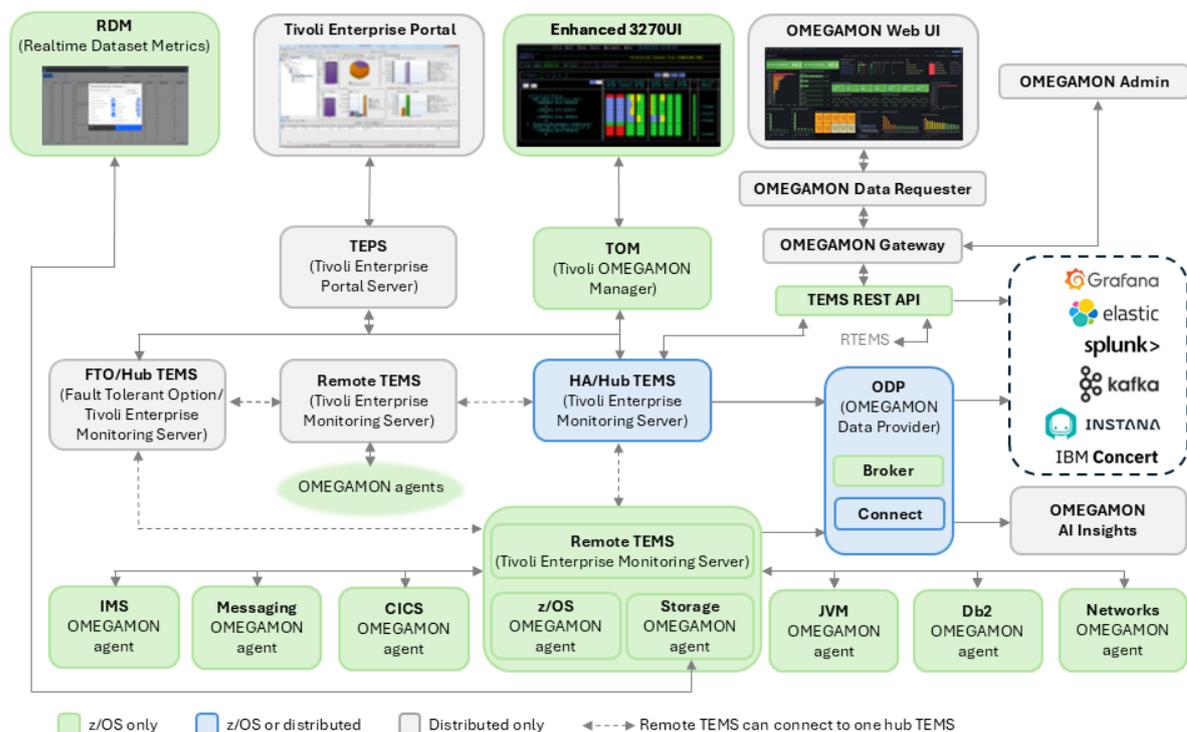
z/OS® fixes are available through [IBM Shopz](#).

Product documentation is available in [IBM Documentation](#). Always refer to the version of the documentation that is consistent with the version of the software that you have installed.

## Step 2: Review the product components and installation steps

Use this information to understand the basic OMEGAMON components and topology.

The following diagram illustrates the basic topology that results from the installation steps you perform.



The installation process follows this order:

1. Plan the locations of the hub and remote Tivoli® Enterprise Monitoring Servers, Tivoli® Enterprise Portal Server (if applicable), and the OMEGAMON® enhanced 3270 user interface, and decide which agents to install.
2. Install and configure the z/OS® components.
3. Install and configure the distributed IBM® Tivoli® Monitoring components: the hub Tivoli® Enterprise Monitoring Server (if not on z/OS®), Tivoli® Enterprise Portal Server, and Tivoli® Enterprise Portal client.
4. For any agent that does not have the self-describing capability enabled, install the application support files that enable the storage and display of data collected by OMEGAMON® monitoring agents on z/OS®.

**Information sources:**

- For a list of supported operating systems and to install distributed components, see the [IBM Tivoli Monitoring Installation and Setup Guide](#).
- For shared components and all monitoring agents on z/OS®, see the [Overview](#) topics of the *OMEGAMON® shared documentation*.
- For the Configuration Manager configuration method, see the following additional sources:
  - *OMEGAMON® shared documentation: Configuration Manager* topics for configuring an OMEGAMON runtime environment from a set of parameters that you specify.
  - *OMEGAMON® shared documentation: Planning and Configuring* topics for general planning and configuration flow.
  - *OMEGAMON® shared documentation: Parameters* for definitions of parameters.
  - Agent-specific parameter reference guides for parameters used by a single agent.
- For OMEGAMON Web UI, see [IBM Z OMEGAMON Web UI](#).
- For OMEGAMON AI Insights, see [IBM Z OMEGAMON AI Insights](#).
- For OMEGAMON Data Provider (ODP), see [IBM Z OMEGAMON Data Provider](#).

## Step 3: Perform the SMP/E installation of the components that run on z/OS

SMP/E is used to install and maintain OMEGAMON software on z/OS® systems.

For information about supported levels of the SMP/E program and other related SMP/E installation requirements, see the product-specific program directories. See Step 1 for information about locating your program directory.

The product media (physical or electronic) includes all the z/OS® components. If you have an earlier version of any of these components installed in the same SMP/E CSI (consolidated software inventory), those components will be automatically replaced by the new version and release provided on the tape. If the CSI already has the same version or a higher-level version of the components, the new version is not installed. The following features and components are part of the monitoring agent package:

- z/OS® Configuration Tool (Configuration Manager)\*
- Tivoli® Enterprise Monitoring Server on z/OS\*
- Tivoli® Management Services: Engine (TMS:Engine)\*
- OMNIMON base, including the OMEGAMON® subsystem and OMEGAMON® enhanced 3270 user interface
- Shared probes (Storage and z/OS® agents only)
- Reporter and Buffer Pool Analyzer (IBM Z® OMEGAMON® AI for Db2)
- The monitoring agents on z/OS®

\* Part of the no-charge IBM® Tivoli® Management Services on z/OS® (5698-A79) mandatory prerequisite.

Perform the SMP/E installation of the monitoring agent before starting the configuration procedures. If recommended maintenance is available, obtain and apply the maintenance.

### Information sources:

See the *IBM® Tivoli® Management Services on z/OS®: Program Directory* and program directories for your monitoring agents on z/OS®.

## Step 4: Configure components and products on z/OS

If you have chosen to run your hub monitoring server on z/OS®, use Configuration Manager to set up your monitoring server.

As you create your hub monitoring server on z/OS®, you also create the required runtime environments and the persistent data store.

If you have chosen to run your hub monitoring server on a distributed system, use Configuration Manager to set up other components on z/OS such as the monitoring agents. You must confirm the IP hostname of the distributed system where the hub monitoring server will be deployed on so that you can specify the value for the **CT\_CMSLIST** parameters (for example the **Kpp\_TEMS\_TCP\_HOST** parameters) of z/OS agents. This parameter establishes connections via enabled protocol between the z/OS agents and their primary TEMS and backup TEMS (if enabled) to report data to.

Initially, you might configure a new runtime environment to be stand-alone, with its own hub monitoring server. Later, you can integrate that runtime environment with the rest of your monitoring topology by converting its hub monitoring server to a remote monitoring server that communicates with a central hub.

As part of the same configuration process, Configuration Manager performs the configuration required for infrastructure components and each monitoring agent on z/OS®.

### Information sources:

- *OMEGAMON® shared documentation: [Configuring products and components on z/OS](#)* for instructions on configuring OMEGAMON products and their common framework components on z/OS.
- *IBM Z Monitoring Configuration Manager: [Creating your first, minimal runtime environment](#)* for the instructions on setting up a simple POC environment.
- *IBM Z Monitoring Configuration Manager: [Creating or updating a runtime environment](#)* for the configuration scenario that matches your requirements.

- *IBM Z Monitoring Configuration Manager: [Converting a hub monitoring server to a remote monitoring server](#)* for instructions on converting a hub monitoring server to a remote monitoring server that communicates with a central hub.

## Step 5: Complete the setup of the z/OS environment

To make the OMEGAMON® monitoring agents on z/OS® and the monitoring server on z/OS® fully operational, you must perform some z/OS® environment setup tasks on each system where any monitoring agent will be running.

You must also complete some product-specific post Configuration Manager steps. These steps must be completed before you start the components.

### Information sources:

- *OMEGAMON® shared documentation: [Completing the configuration outside the configuration software](#)* for additional steps outside the configuration software to complete the configuration of your runtime environment.
- *OMEGAMON® shared documentation: [Complete the configuration of a Tivoli Enterprise Monitoring Server](#)* to configure the z/OS® monitoring server.
- *OMEGAMON® shared documentation: [Complete the configuration for OMEGAMON monitoring agents](#)* for product-specific configuration steps.

## Step 6: Install the distributed components

You must install the distributed components when your hub monitoring server is on a distributed system or when you do not have self-describing agent capability configured.

You need to complete this step under one of the following circumstances:

- Your hub monitoring server is on a distributed system.
- You do not have the self-describing agent (SDA) capability configured regardless of the platform where the hub monitoring server, remote monitoring server, or monitoring agents will be deployed. Review the upgrade documentation to determine whether the level of product you are installing supports the self-describing agent capability. To active the SDA capability on a monitoring suite level, use `tacmd editSdaInstallOptions` or `SPUFIL`.

Add application support (predefined workspaces and situations, online help, expert advice, and OMEGAMON® data for Tivoli® Monitoring) from the appropriate application support media described in Step 2.

If you are installing IBM Z® OMEGAMON® AI for Db2, you can also install product-specific distributed components, such as IBM Z® OMEGAMON® AI for Db2 Agent for Db2 Connect Monitoring.

### Information sources:

- To perform administrative tasks for the distributed components of IBM® Tivoli® Monitoring, see [IBM Tivoli Monitoring Administrator's Guide](#).
- To install and configure the distributed components of IBM Z® OMEGAMON® AI for Db2, see [Installing IBM Z OMEGAMON AI for Db2 Agent for Db2 Connect Monitoring](#).

## Step 7: Set up user security

Use this information to set up user security for Tivoli Enterprise Portal users.

Completing security setup is not mandatory until after step 8. If your hub monitoring server is running on z/OS®, then you need to configure the Resource Access Control Facility (RACF®) or your system authorization facility (SAF) product to authenticate your Tivoli® Enterprise Portal users. Additional RACF® authorization might be described in your product-specific configuration guide.

### Information sources:

- For information on setting up Tivoli® Enterprise Portal user accounts and enabling authentication, see [IBM Tivoli Monitoring Administrator's Guide](#).
- For information about enabling authentication on a z/OS® hub, see [Configure a Tivoli Enterprise Monitoring Server](#).

## Step 8: Start all components and test your installation

Use this information to test your installation.

After completing the previous steps, you will have installed and configured all required components. Use the following steps to start and test your installation for each environment:

1. Start the OMEGAMON® Subsystem.
2. Start the Tivoli® Enterprise Monitoring Server. Check the job log for any errors. (If the hub monitoring server is not configured in this environment, start the hub before you start the local monitoring server.)
3. For agents configured to run in their own address space, start the started task for each monitoring agent on z/OS®. Check the log for errors. If you are using the classic component, start the classic collector before you start the OMEGAMON® monitoring agent.
4. Start the OMEGAMON® enhanced 3270 user interface started task (default OMEGTOM). Check the job logs for errors.
5. Start the Tivoli® Enterprise Portal Server and Tivoli® Enterprise Portal (required if the self-describing agent feature is not enabled).
6. Verify that the monitoring agent is collecting data.

**Information source:** The product-specific configuration documentation or the [Configuring products and components on z/OS](#) topics in the *OMEGAMON® shared documentation*.

## Step 9: Configure historical data collection

Historical data collection is an optional feature that is enabled through the Tivoli® Enterprise Portal or the OMEGAMON® enhanced 3270 user interface.

The tasks required to enable historical reporting can be performed at any time after you have verified your installation. If you enable historical data collection, monitoring agents are instructed to take data samples at a specified interval and store it. The collected data can be displayed in workspaces in the user interfaces, warehoused for in-depth analysis and long-term data reporting, used as a data source for OMEGAMON Data Provider, and exported to third-party tools for reporting and analysis.

OMEGAMON Web UI supports historical visualizations through Tivoli Enterprise Monitoring Server REST services (TEMS REST API). To view historical data in the starter dashboards, you must enable historical data collection using either the Tivoli Enterprise Portal or the enhanced 3270UI. For a complete list of available dashboards for OMEGAMON agents and the corresponding attribute groups that require history collection, refer to the [OMEGAMON Web UI](#) documentation.

### Notes:

- Not all historical data that is displayed in the Tivoli® Enterprise Portal can be displayed in the enhanced 3270UI, and not all the near-term history displayed in the enhanced 3270UI can be displayed in the Tivoli® Enterprise Portal.
- The enhanced 3270UI cannot display data from the Tivoli® Data Warehouse, and you cannot configure the Warehouse Proxy agent or the Summarization and Pruning agent from the enhanced 3270UI.
- Using the Tivoli® Data Warehouse is optional for the IBM Z® OMEGAMON® AI for Db2 monitoring agent. The agent offers other long-term storage options.
- The z/OS® persistent data store data sets, where some of the historical data is stored on z/OS®, should have been configured earlier during Step 4.

### Information sources:

- *OMEGAMON® shared documentation*: [Persistent data store V2 \(PDS V2\)](#) to configure the persistent data store for your monitoring agent.

- [IBM Tivoli Monitoring Installation and Setup Guide](#) to install and configure the Tivoli® Data Warehouse, set up the Warehouse Proxy agent and configure the Summarization and Pruning agent, and configure and enable data collection.
- [OMEGAMON Web UI](#)

## More information

Tivoli® Management Services on z/OS® and the OMEGAMON® products are available in a ServerPac offering that lets you install them without the need to install the z/OS® operating system.

- For application support file information, see [Locating IBM Z Monitoring Suite Application Support Files](#).

**Note:** For earlier OMEGAMON product releases, see [Locating ITM Workspace Application Support Files for z/OS Agents](#).

- For IBM® Support, see [Let's troubleshoot](#).
- If you have problems ordering products or services or understanding how to use a Shop zSeries® Electronic Download page, see [Ordering Products and Maintenance through Shop zSeries](#).

## Prerequisites and packaging

The topics in this section help you prepare to install and configure the OMEGAMON® products and the components of Tivoli Management Services on z/OS® systems.

- [“Software and hardware prerequisites” on page 67](#) directs you to the documentation of requirements that must be completed before you begin installing and configuring the products and components.
- [“Installation packages” on page 67](#) describes the contents of the packages for the Tivoli Management Services and OMEGAMON® products.

## Pre-installation requirements and checklist

See technote [Preinstallation Requirements and Instructions](https://www.ibm.com/support/docview.wss?uid=swg21318692) (<https://www.ibm.com/support/docview.wss?uid=swg21318692>).

## Software and hardware prerequisites

Before you begin installation and configuration, be sure you have identified and addressed any required any software and hardware prerequisites.

The *Program Directory* for each OMEGAMON® product contains a complete list of the software and hardware prerequisites for that product. The [Program Directory for IBM Tivoli Management Services on z/OS 6.4.0](#) provides instructions for the SMP/E installation of these components and information about their z/OS® hardware and software prerequisites. The hardware and software prerequisites for the distributed components of Tivoli Management Services can be found in [IBM Tivoli Monitoring: Installation and Setup Guide](#).

To make sure that you have the latest version of all components, check for any fix packs that might be available.

## Installation packages

If you are installing OMEGAMON products and Tivoli Management Services components for the first time, you will find familiar IBM® fulfillment methods (such as Shopz), installation tools (such as SMP/E or InstallShield), and installation documentation, including a program directory. You should be aware of the contents of your installation packages.

Product tapes (or their electronic representation) are in the standard IBM® refile format that IBM® software manufacturing uses to create the tape images for installation systems such as ServerPac and CBPDO. If you

receive your product through CBPDO, maintenance is included on the media for you to install. If you receive your product as part of a ServerPac or SystemPac®, maintenance is preinstalled.

You can order a ServerPac that includes your mainframe Tivoli products with or without the z/OS® operating system. For a list of the Tivoli products you can include in a ServerPac, see the [Shopz product catalog](#).

**Important:** The shared components of the IBM Tivoli Management Services on z/OS product are not automatically included in the product package for a monitoring agent on z/OS® systems. Be sure to include IBM Tivoli Management Services on z/OS in your order. If you have not ordered any monitoring agents on a z/OS® system but you want to install a monitoring server on a z/OS® system, you can order IBM Tivoli Management Services on z/OS by itself. The IBM Tivoli Management Services on z/OS product includes both mainframe and distributed components of Tivoli Management Services (IBM Tivoli Monitoring).

Contents of a product package for Tivoli Management Services on z/OS.

Table 10: Product packaging, Tivoli Management Services on z/OS		
Media	Name and description	Target
<b>Media set 1 of 2: z/OS® installation</b>		
	<p>A downloaded electronic tape image provides the installation software for the mainframe components:</p> <ul style="list-style-type: none"> <li>• Tivoli Enterprise Monitoring Server on z/OS®</li> <li>• TMS:Engine</li> <li>• Software for configuring the product components</li> </ul>	
	The z/OS® media set also includes hardcopy license information.	—
<b>Media set 2 of 2: Distributed installation</b>		
	<p>The distributed package includes DVDs and CDs:</p> <ul style="list-style-type: none"> <li>• IBM Tivoli Monitoring DVDs include subdirectories and installation procedures for components and tools on supported Windows™, UNIX™, and Linux™ operating systems.</li> <li>• IBM® Db2 Universal Database™ CDs provide database functions to the components on supported Windows™, UNIX™, and Linux™ operating systems.</li> <li>• Language packs provide online help and presentation files in the supported national languages: <ul style="list-style-type: none"> <li>◦ <i>IBM Tivoli Monitoring Language Packs</i> DVD or CDs</li> <li>◦ <i>Db2® National Language Pack</i> CDs</li> </ul> </li> </ul>	

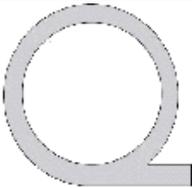
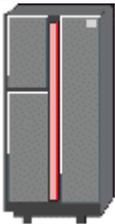
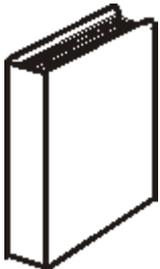
“Product packaging, Tivoli Management Services on z/OS” on page 68 shows the contents of a product package for Tivoli Management Services on z/OS.

IBM Tivoli Monitoring publications are not included as part of the product package. You can find the latest publications in [IBM Documentation](#).

An OMEGAMON® monitoring agent on z/OS® product package includes the following items:

- z/OS® FMIDs either on tape or in electronic format.  
Product tapes are in CBPDO or ServerPac format and contain product-specific FMIDs.
- Physical CDs or DVDs or electronic CD or DVD images that are required for some core product functions.
- Publications on CD or DVD as well as in hardcopy or electronic form.

“Product packaging, OMEGAMON® monitoring agents” on page 69 summarizes the contents of the packages. Contents of a product package for an OMEGAMON Monitoring Agent.

Table 11: Product packaging, OMEGAMON® monitoring agents		
Media	Name and description	Target
<b>Media set 1 of 2: z/OS® installation</b>		
	<p>Product tapes or electronic tape images provide the installation software for the monitoring agent and its components:</p> <ul style="list-style-type: none"> <li>• OMEGAMON® monitoring agent</li> <li>• OMNIMON base (as appropriate)</li> <li>• Shared probes (as appropriate)</li> <li>• End to End Response Time collector (as appropriate)</li> </ul>	
	<p>The agent media set also includes hardcopy publications:</p> <ul style="list-style-type: none"> <li>• OMEGAMON® product-specific license information and the IBM® International Program License Agreement (IPLA)</li> <li>• <i>IBM® OMEGAMON® monitoring agents on z/OS®: Quick Start Guide</i></li> </ul>	—
<b>Media set 2 of 2: Distributed installation</b>		
	<p>The agent media set includes the following DVDs or CDs or electronic DVD or CD images:</p> <ul style="list-style-type: none"> <li>• OMEGAMON® application support CD or DVD.</li> <li>• OMEGAMON® language support CD or DVD.</li> </ul>	

Application support (which contains the predefined workspaces and situations, online help, expert advice, and OMEGAMON® data for the Tivoli® Enterprise Portal) is supplied on multiple DVDs or CDs. For a complete list, see the *IBM® OMEGAMON Monitoring Agents on z/OS Quick Start Guide*. Application support information, including the latest media levels available, can be found online in technote *Locating ITM Workspace Application Support Files for z/OS Agents* (<https://www.ibm.com/support/pages/node/1077603>).

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## Deployment guides

IBM Tivoli Management Services on z/OS is a complex monitoring system that consists of many components and features. For one who is new to the system, it could be hard to figure out the proper flow to install and configure various components. To help TMS beginners build a better understanding of how the monitoring infrastructure is set up, this section provides several deployment guides that describe different deployment scenarios. These guides are mostly for Proof of Concept purpose, and therefore not all features are introduced. You can follow the scenarios introduced in these guides to learn the deployment process at first, and then exploit additional features based on your needs.

You can find the following guides:

	Hub TEMS	Remote TEMS	TEPS	TEP
First time deployment guide	z/OS	z/OS	N/A	N/A
Cross-platform quick deployment guide	Linux	z/OS	Linux	Linux
Extension guide	Linux	z/OS	Linux	Linux

**Note:** Both First time deployment guide and Cross-platform quick deployment guide help you set up a simple environment with basic monitoring features. The main difference is the location of the Hub TEMS and other components on distributed system. Therefore, if you are setting up an environment across platforms, be sure to take Cross-platform quick deployment guide for reference.

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## First time deployment guide

The purpose of this guide is to provide step-by-step instructions for a person who is either new to the monitoring system on z/OS® or new to the configuration tool, PARMGEN, which is used to get monitoring running properly at your site.

### About this task

You should use this guide if any of the following items describes you:

- You are installing IBM®'s OMEGAMON monitoring solutions at your site for the first time.
- You are using the PARMGEN configuration tool for the first time.
- You are performing a quick on-premise proof of concept deployment.

If none of these items describes you, then you are an experienced user of the monitoring products and the PARMGEN tool and you are welcome to go directly to the documented configuration scenarios after you've installed the products using SMP/E.

If you are a *first-time user* (FTU), according to any of these criteria, you've found the perfect place to start. As a new user, you cannot be expected to know enough detail about the monitoring components at this point to make the best decisions for your site. Our intent is to lead you through the implementation of the monitoring system without bogging you down in too much documentation. We will tell you what you need to know to get started and accomplish some tasks.

As you follow the configuration steps designed for the first-time user, you will begin to learn about the components that comprise the monitoring system and you will be more confident in the decisions you are making for your enterprise. Rather than overload you with options and advanced features, the FTU approach is to divide the entire scope of configuration into smaller tasks. After completing each task, you will be able to start and use the monitoring products that have been configured. You will see the system working after each configuration task is completed.

The goal of this guide is to keep the reading minimal while building your understanding. Just follow our step-by-step instructions and click on the links which will take you to the exact instructions you need to follow. When you have finished with the activity in each link, return to this document for the next task.

## FTU installation and configuration tasks

The first time user (FTU) configuration tasks are designed to get the monitoring system into real production use as quickly as possible. Some of the FTU tasks along the road to a full production implementation may not seem to be exactly what you think your site needs. But by the time that you finish all of the FTU tasks, you will have modified the initial configuration into the perfect advanced configuration for your site. What is more, you will see the monitoring system running as soon as the fourth task is completed. Just follow the tasks in the order they are presented.

### About this task

By getting monitoring running quickly, you will be able to verify that it is still running after every subsequent task. That way, any problems you encounter can be assumed to be related to the changes that you just completed, which makes it easier to fix any issues that might arise before you make further changes.

Sometimes this staged configuration methodology is referred to as *Crawl-Walk-Run* and that fits in this case. By teaching you what you need to know along the way, you get *crawling* with the monitoring system nearly immediately, and before you know it, you are *walking* along and then *running* with advanced concepts like a true expert. FTU Tasks 1 – 5 complete the *crawl* phase; FTU Tasks 6 – 8 complete the *walk* phase; and you begin to *run* with FTU Task 9.

You can skip the optional tasks if they do not apply to your site, but you must complete the tasks you do perform in the order they are presented. If you are not sure if you need the optional steps, just read the brief description at the beginning of each task.

The FTU process is not just about seeing value quickly although it accomplishes that. It is also about getting your monitoring system fully operational and in production.

Let's get started with some basic concepts and terminology.

### FTU Task 1: Understand the minimum background information needed to get started

There are some terms and topics that you need to understand in order to begin the installation and configuration of the monitoring system. Other terms and concepts will be introduced in the tasks that use them.

#### Monitoring servers

The monitoring system employs a client/server method where various agents collect data on the items you want monitored and they send that data to a central server where the client user interfaces have access to it. The server also takes data from the user interfaces and passes it back to the appropriate agent to effect changes that the user may want.

A single *hub* monitoring server can have up to 20,000 agents reporting to it and many instances of user interfaces connected to it. The agents that report to the hub can reside on z/OS®, Linux™ on Z or distributed systems, Windows™, or UNIX™, which gives you a picture of your entire enterprise, not just z/OS®. Note that when many agents are reporting directly to a single hub, configuring the remote Tivoli® Enterprise Monitoring Server is important for maintaining the performance and availability of your monitoring system.

To avoid those issues, there are also *remote* servers. These servers can be distributed throughout the enterprise and offload work from the hub by having many of the possible 20,000 agents report to the remote servers rather than to the hub. The remote servers then interact with the hub on behalf of the agents that report to the remote. If the hub goes down, the remote servers will continue to collect data from the agents and pass it along to the hub when it comes back on line. The same is generally true for the agents themselves should the server they interact with not be available.

There is only one hub in a monitoring enterprise. If your site has more than 20,000 endpoints to be monitored, then you have set up more than one hub. As a separate system, each hub would have its own distinct group of monitoring agents, remote servers, client user interfaces, and historical data collection.

On z/OS®, there are a couple of monitoring agents that must run inside the address space of the server. In those cases, there must be a server (usually a remote server) configured and running along with the agent. Note that the type of the server is controlled by a mode switch. In other words, the code and programs are the same and whether a server is a hub or remote is controlled by parameters settings.

For z/OS®, all of the remote servers would be configured to run on z/OS®. The hub, however, can run on other systems besides z/OS®, such as Linux™ on Z or distributed systems, Windows™, or UNIX™. The FTU tasks in this guide have you set up a hub server on z/OS® to start with, then you will have an opportunity to change that to another permanent location.

The hub server is clearly a key component in the monitoring system, one that you cannot have going down even for routine maintenance. If the hub is on z/OS®, it can be configured as a high-availability hub (HA hub) using DVIPA (Dynamic Virtual IP Addressing). On the other operating systems, a *hot standby* hub can be configured that mirrors the hub and then takes over when needed.

Monitoring agents must store certain credentials and artifacts on all the servers (hub and remote) so that the servers know how to interact with them. For distributing these agent files and maintaining their currency, use the self-describing agent (SDA). The SDA feature is employed by the FTU configuration tasks, and described in a following section.

For a picture of how the basic components of the monitoring system work together, see [Tivoli Management Services components](#).

## User interfaces

There are several user interfaces available to you. The two user interfaces that this guide will talk about are the OMEGAMON® Enhanced 3270 user interface (Enhanced 3270UI) and the Tivoli® Enterprise Portal.

The Tivoli® Enterprise Portal is run from a browser. It connects to its own server, the Tivoli® Enterprise Portal Server (the portal server). The portal server runs on Linux™ on Z or distributed systems, Windows™, or UNIX™. The portal server interacts with the hub server to display data for your entire enterprise, including data for both distributed and z/OS-based monitoring agents.

The Enhanced 3270UI provides browser-like interaction on a 3270 emulation terminal. The interface interacts with the hub server and displays data for z/OS-based monitoring agents. It is also referred to as the Tivoli® OMEGAMON® Manager.

There are two other z/OS-based user interfaces. The first is the *classic* or menu system interface, which is the interface provided with the original four OMEGAMONs, those for z/OS®, CICS®, IMS™, and Db2®. The other interface is the CUA interface, which employs a basic graphical user interface from which you can drill down to the meaningful data behind status changes. You can use any or all of these user interfaces at the same time. The FTU tasks focus on using the Enhanced 3270UI because it is useful for z/OS-based monitoring tasks.

## SDA

SDA stands for *self-describing agent*. Self-describing agents include all the application support files required to recognize and process data from those agents. At startup, self-describing agents automatically push application support updates to their local monitoring server. The data is then replicated to the hub monitoring server and all other Tivoli® Management Services components that require it (such as the Enhanced 3270UI, the portal server, and the Tivoli® Data Warehouse).

Self-describing monitoring agents eliminate the need to recycle the monitoring server after application support updates and to ensure that application support files are current. If the SDA feature is not enabled, application support must be installed manually from a DVD and can easily get out of sync with the agent.

By default, the SDA feature is enabled for any monitoring agent that provides self-describing support, but the feature is disabled on monitoring servers. If your enterprise includes self-describing agents, you can enable SDA by changing parameter values for the monitoring servers. You can selectively enable or disable SDA for individual agents or monitoring servers. In addition, SDA provides granular control over the products and versions for which application data is automatically installed.

Activating the SDA feature for OMEGAMON® requires that you specify a z/OS® UNIX® System Services file system to store agent artifacts that are used by the monitoring servers. The FTU model RTE used in Task 4 (@MDLHSS) is set up to use SDA, which means that the `KDS_KMS_SDA` parameter in the RTE configuration profile is set to Y. You can always set up another runtime environment that does not use SDA after you better understand all the components and how they interact.

For more information about SDA feature, see [Self-describing agent feature](#).

## Historical data collection

The Tivoli® Data Warehouse, an optional component of Tivoli® Management Services, is the long-term data store for the performance and analysis data collected by the monitoring agents. The data warehouse is stored on a supported database (such as Db2®, Oracle®, or Microsoft® SQL) by the Warehouse Proxy agent (WPA). The WPA periodically receives data (either indirectly from the hub monitoring server or directly from the monitoring agents) and inserts that data into the Tivoli® Data Warehouse.

On z/OS® systems, the monitoring agents' short-term history data is maintained in data sets allocated and initialized during product configuration. The WPA receives this short-term history data from the monitoring server running on z/OS® and delivers it to the warehouse. Two specialized agents interact with the Tivoli® Data Warehouse:

- The Warehouse Proxy agent receives the short-term history data and delivers it to the Tivoli® Data Warehouse for long-term storage.
- The Summarization and Pruning agent allows you to customize how long to save (prune) and how often to aggregate (summarize) the data in the Tivoli® Data Warehouse database, thereby cutting database size and reducing resource requirements.

The Warehouse Proxy agent and the Summarization and Pruning agent run on Linux™ on Z or distributed systems, Windows™, or UNIX™.

## PARMGEN

Parameter Generator, or PARMGEN, is the name of the configuration tool supplied with OMEGAMON® and related products. IBM® supplies everything you need to get the monitoring products running; however, the supplied template files need to be customized for the specific settings used at your site.

You are probably very familiar with modifying JCL, adding a job card, changing data set names and disk characteristics for any product you have ever tried to use on z/OS®. You might have to change product-supplied parameters as well to suit the way you intend to use the supplied product. PARMGEN provides a framework for accomplishing all of those same updates, as well as mechanism to retain and re-implement the same modifications whenever you clone or update your monitoring system.

Each of the products in the monitoring system deals with a different application. The monitored applications clearly have unique needs and methods, so it stands to reason that the agents that monitor applications also have different needs from one another, including unique parameters that must be tuned for the application. PARMGEN helps to manage all of those things.

There are four elements at the heart of the PARMGEN process.

First, there is the PARMGEN ISPF-based menu, called the PARMGEN workflow interface. This interface guides you through the configuration work required to get the monitoring system running as desired for your site. This tool also verifies that data sets exist and that parameter values are within range.

Second, there are configuration profiles (global and RTE-specific) that contain all of the settings for parameters, switches, and variables that control how the monitoring products work at your site. The PARMGEN tool aids you in setting these values correctly for your site and updates the profile. It still may be necessary for you to review the contents of the profile manually to ensure values and switches are all correct.

Third, there are supplied templates (JCL, data, embeds, and SYSIN) used to run the monitoring programs. These templates use the same variables and strings found in the PARMGEN profile as placeholders in the templates.

Fourth, a program called \$PARSE reads the PARMGEN profile and substitutes the values from the profile into the placeholder positions in all the templates. For example, \$PARSE inserts an instance of your job card into all the supplied JCL and substitutes your desired high-level qualifier and disk-related values so that everything matches your data set naming conventions. \$PARSE also makes updates according to all the product-specific parameter changes you have made and modifies data, embeds, and SYSIN accordingly.

In other words, by the time you see and submit JCL, all of your chosen values will already be in place. You just interact with the PARMGEN ISPF interface and PARMGEN updates the PARMGEN profile, makes various string substitutions, and presents updated JCL for you to submit.

A best practice is to implement user and system variables in the configuration of the monitoring system. This greatly aids in cloning to different systems. The cloned runtime environment will then pick up the values of the new system. Implementing system variables is a step in the FTU configuration process. Just follow the tasks in this guide.

For more on PARMGEN, see [The PARMGEN configuration method](#).

## RTE

A *runtime environment*, or RTE, is a logical grouping of runtime libraries that are referenced by started tasks running on a z/OS® image. This grouping is useful because you will not always want to implement every monitoring product that you installed via SMP/E on every system or LPAR. For example, you may have installed OMEGAMON® for IMS™ on z/OS®, but not every LPAR contains an instance of IMS™ to be monitored. Therefore not every RTE should have a configured version of OMEGAMON® for IMS™.

There are different types of RTEs you can configure that control the way SMP/E libraries are used. The initial FTU configuration uses an RTE type that concatenates the actual SMP/E target libraries in the started tasks. Sharing libraries with SMP/E can have some advantages that are appropriate for a test environment, namely that any changes or maintenance that you install are immediately employed in the RTE.

Because the immediate implementation of maintenance and changes is not typically a best practice for non-test systems, the initial SMP/E-sharing RTE created in the FTU process will be changed later to an RTE type that is more appropriate for production, namely one that maintains a static copy of the target libraries so that it is not affected by changes to the target libraries. A static RTE type gives you control over when and how production libraries are updated.

What types of runtime environments to set up contains all the information you will need to understand the concept of an RTE and the types of RTEs available to you. But please follow the FTU process to begin with and set up an RTE that shares with SMP/E. Again, this will be changed to a static type of RTE later in FTU process.

## Exclude Find (XF)

An Exclude Find is a quick way of displaying only the items you want to see when using the ISPF editor. IBM® supplies an XF macro that first does an **Exclude** all of the data followed by a **Find** on the desired string. This is a convenient tool. XF edit macro contains more information on this ISPF macro that is referenced in our documentation.

## FTU Task 2: Install the monitoring product

The monitoring products and shared framework components like the monitoring server are installed via SMP/E. Skip this step if you already completed the SMP/E installation of the monitoring products and SMP/E applied them.

### About this task

**Note:** Before installing any monitoring product, ensure that all prerequisites have been met as described in Pre-installation requirements and checklist.

There are two ways to make this process simpler:

1. Your monitoring products can be ordered on a ServerPac. The ServerPac contains all the products at the latest RSU level with some SMP/E processing already completed. For these reasons, installing a ServerPac is recommended. See Packaging for more information.
2. If you have already ordered CBPDO format (individual images) rather than a ServerPac, you can use the JOBGEN facility provided with the monitoring products to help with installation. If you use CBPDO, you will have to install the latest maintenance in addition to that. It might be worth your while to order an integrated ServerPac right now.  
For more on JOBGEN, see Job Generator Utility.

Because the monitoring products have shared elements, it is highly recommended that you install all of them together into the same consolidated software inventory (CSI). In the rare case where you prefer to install monitoring products into multiple CSI zones because of how they are structured internally, PARMGEN provides the capability for disparate product support group configuration. For more information, see Decision 1: Why to install into a shared CSI.

After you install the products via SMP/E, they must be configured to operate properly at your site. This configuration begins with the next FTU task.

## FTU Task 3: Prepare the system for configuration

Several system preparation tasks must be completed before the RTE is created and monitoring can be started. In this task, you prepare your system for the RTE you are about to configure.

### About this task

Several of these steps involve authorization changes to the security software that manages z/OS® resources. IBM® supplies instructions for the Resource Access Control Facility (RACF). If your sites uses other software, you will have to complete similar steps for that software.

### Procedure

1. Set up required authorizations and files for SDA.
  - a. Create a user ID with superuser authority (a TSO ID with an OMVS segment defined to it) if you do not already have one.  
The %KDS\_TEMS\_STC% TEMS started task name must have superuser authority. For more information, see *z/OS® UNIX® System Services Planning: Superusers in z/OS UNIX*.
  - b. Create a new file system for products that use the **RTE\_USS\_RTEDIR** home directory parameter: for example, `omvs.omegamon.tstest.hfs`.  
This file system must be created, mounted, and in read/write mode before the z/OS® UNIX® System Services jobs that define the file system paths are submitted. Select a name for your RTE that establishes or fits a naming convention that can be used as you install additional RTEs. The KCIUSSJB sample job in the *gbl\_target\_hilev*.TKANSAM SMP/E target library is run in FTU Task 4.  
In the **MOUNT FILESYSTEM** command, the **MOUNTPOINT()** parameter equates to the value you will specify for the **RTE\_USS\_RTEDIR** parameter. For example:

```
"MOUNT FILESYSTEM('&hlq_rte_home') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/rtehome')  
  PARM('AGGRGROW')"
```

So an example of this using RTE name TSTEST might be:

```
"MOUNT FILESYSTEM('OMVS.TSTEST.HFS') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/tstest')  
  PARM('AGGRGROW')"
```

2. Optional: To use the auto-discovery functions of IBM® Discovery Library Adapter for z/OS® (DLA), verify that the user ID has the following RACF authorities, which are required to run the KCIJPDLA job:
  - READ access is recommended for all the data sets in the system PARMLIB concatenation used during IPL.
  - READ access is required to profiles in the MQCMDS class (if active) to allow the z/OS DLA to issue MQ DISPLAY commands via the MQ command interface.
  - If RACF is used to protect DB/2 resources, then authority is required to issue DB/2 DISPLAY commands and to access (READ) SYSIBM resources using dynamic SQL.
  - READ access is recommended to WebSphere configuration files.
  - An OMVS segment with authority to issue the netstat, host and home commands.
3. Authorize the monitoring programs.
  - a. IEFSSNxx must be updated to define and start the OMEGAMON® subsystem.  
Create a subsystem ID entry in your system PARMLIB member IEFSSN.xx. The default subsystem name generated by PARMGEN is CNDL in the **RTE\_KCNSTR00\_SSID** parameter. An example of the default SSN entry to bring up the OMEGAMON® subsystem at IPL would therefore be:

```
SUBSYS SUBNAME(CNDL) INITRTN(KCNDLINT) INITPARAM('SSPROC=IBMCN')
```

Be sure that the subsystem proc has been moved to the appropriate system proclib prior to IPL. If you do not want the subsystem started at IPL, the entry would be:

```
SUBSYS SUBNAME(CNDL) INITRTN(KCNDLINT)
```

3. Authorize the product started tasks:

- i. Update RACF® or equivalent security system for the user ID (with OMVS segment) you will use for these started tasks:
  - Hub and remote monitoring servers (the default started task is named IBMDS)
  - Enhanced 3270 user interface (the default started task is named IBMTOM)
  - Agent address spaces (the default z/OS® classic monitor task is named IBMM2RC)

- ii. Use the RDEFINE command to associate the ID with the following started tasks:

- Monitoring server (default started task name: IBMDS):

```
RDEFINE STARTED IBMDS.* STDATA(USER(userID) GROUP(SYS1))
```

- Enhanced 3270 user interface (default started task name: IBMTOM):

```
RDEFINE STARTED IBMTOM.* STDATA(USER(userID) GROUP(SYS1))
```

- z/OS® agent OMEGAMON® component (default started task name: IBMM2RC):

```
RDEFINE STARTED IBMM2RC.* STDATA(USER(userID) GROUP(SYS1))
```

See the *Security Requirements* section in the attachment of the technote that is listed in [Pre-installation requirements and checklist](#) for a complete list of product started tasks.

- iii. After you issue all the RDEFINE commands, issue the refresh command:

```
SETROPTS RACLIST(STARTED) REFRESH
```

For additional information about these RACF® commands, see the [z/OS® Security Server RACF® Security Administrator's Guide](#).

4. Update IKJTSONn with the names of authorized monitoring programs. You might request your site's authorized system programmers to perform this step so it can be scheduled with the LPAR's change control processes.
  - Add programs KPDDSCO, KEPSTCTO, KOBROUTR, and KOBSPFAU to the system PARMLIB member IKJTSONn under the AUTHPGM section.
  - Refresh the IKJTSONn member by issuing the set command (T IKJTSONn).
5. If you installed OMEGAMON® for z/OS®, add the following modules to the IPL linklist:
  - KCNDLINT
  - KM5EXIT3/KM5CSFSX (if ICSF is used). To provide sufficient storage to allow the monitoring exit to run, modify the ICSF subsystem JCL to increase the REGION limit to REGION=0M.

## FTU Task 4: Configure a monitoring system on z/OS® with a hub monitoring server

In this task, you will configure a simple runtime environment (RTE) with a hub monitoring server, one monitoring agent, and the Enhanced 3270 user interface.

### Before you begin

Ensure that you have fully completed the following tasks:

- FTU Task 1 so that you understand the terminology used in this task and subsequent tasks.
- FTU Task 2 so that the monitoring products are applied in SMP/E target libraries.
- FTU Task 3 so that the file system for storing SDA data is available on your z/OS® UNIX® System Services system and OMEGAMON® programs are authorized.

### About this task

The purpose of this first configuration task is to quickly create a working RTE where you can run the monitoring system after finishing this task. To accomplish this task, we will:

- Use a sharing type of RTE in which SMP/E libraries are concatenated directly in the runtime JCL. Do not worry if this is not the RTE type you want to use in production. We will be changing the RTE type in a subsequent FTU task.
- Limit this initial configuration to just one monitoring agent even if you installed many more agents than that into your target libraries. Let's keep it simple for now. We will add more agents to the RTE in a subsequent FTU task.

Follow the step-by-step instructions in [Scenario QCF10: Configuring a sharing-with-SMP/E runtime environment with a hub monitoring server](#) to configure this RTE. Make the following adjustments as you go through the scenario:

#### In the Setting up the work environment step

In the Include Products in this PARMGEN RTE panel, all products that were installed into your target libraries are preselected for configuration. We do not want them all at this time. For this initial configuration, we want only the following components:

KDS Tivoli® Enterprise Monitoring Server V6.3.0

KM5 OMEGAMON® for z/OS® V5.3.0

OMEGAMON® Enhanced 3270 User Interface V7.3.0

Remove the slash in front of all other components to deselect them from the configuration.

Our choice for the one agent to configure first in this RTE is OMEGAMON® for z/OS® (the agent whose product code is KM5). If you did not install KM5 into your SMP/E target libraries, then it will not be listed here as an available selection.

If you do not have KM5, our next recommendation would be OMEGAMON for CICS (KC5). If you did not install either of these agents, then choose any one of the agents you did install and remember your choice.

**Note:** This guide assumes you are configuring KM5 as the agent. If that is not the case, substitute the KM5 product code in the scenarios with the code of the agent you have selected. Be aware that you may have to complete some additional prerequisite steps including program authorization and addition post configuration steps for the agent you choose. If you install a different agent, check technote [Preinstallation Requirements and Instructions](https://www.ibm.com/support/docview.wss?uid=swg21318692) (<https://www.ibm.com/support/docview.wss?uid=swg21318692>), the *Program Directory*, and the *Planning and Configuration Guide* for your agent or agents.

#### In the Customizing the configuration profiles step

You need to make a few adjustments to customize the profiles for your site.

Pre-populate the parameters in the configuration profiles by running the KCIJPDLn jobs. For more information about the KCIJPDLn jobs, see [Preparing the configuration profiles by running the KCIJPDLn jobs, PARMGEN z/OS DLA utility jobs and commands](#), and [The parameters that can be auto-discovered by the KCIJPDLa job](#).

In the RTE configuration profile, at a minimum you must edit the **RTE\_USS\_RTEDIR** parameter to specify the path for the z/OS UNIX directory where the self-describing agent data is stored. Review the [Customizing the runtime environment configuration profile](#) to see if you have to make additional changes.

In the global configuration profile, you must provide a site-appropriate value for the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library **GBL\_DSN\_CSF\_SCSFMO00** parameter and any of the product-specific parameters listed in [Customizing the global configuration profile](#) as appropriate.

#### In the Completing the setup of the environment step

Several of the jobs that you submit to complete the setup require authorization, including those that APF-authorize the SMP/E target libraries and those that add the VTAM® definitions for the started tasks to VTAMLST. Make sure that you have the proper authorization to submit these jobs, or have someone with the proper authority submit them.

Additional steps may be required that cannot be completed in the PARMGEN workflow tool. That should not be the case for FTU Task 4 if you installed only the monitoring server, the Enhanced 3270 user interface, and OMEGAMON® for z/OS®. Still, you should review the topics in [Completing the configuration outside the configuration software](#).

## FTU Task 5: Start and verify the monitoring system

In FTU task 3, you added security and network definitions to z/OS® for this runtime environment (RTE). In FTU task 4, you configured the RTE to use the names you defined. Now, you are ready to start the tasks needed for this RTE and log on to the Enhanced 3270 to test your installation.

### About this task

The started tasks for the configured components are located in the `rte_hilev.rte_name.RKANSAMU` data set. The name of the started task for the monitoring server is `rte_stc_prefixDS`, where `rte_stc_prefix` is IBM by default, or the prefix you specified when you configured the RTE. This started task also starts the OMEGAMON® for z/OS® monitoring agent, if configured. The started task for the Enhanced 3270 user interface is `rte_stc_prefixTOM`.

**Tip:** If you don't want to start the components individually, the PARMGEN configuration method provides a composite `rte_stc_prefixSTRT` member in the RKANSAMU data set of each RTE. This composite member has the start commands for all configured products in the order in which they should be started. If you used the PARMGEN-supplied KCIJPSYS job, this job also copied the `rte_stc_prefixSTRT` member in the system procedure library (or the data set you might have customized in the `GBL_DSN_SYS1_PROCLIB` global parameter).

To verify that the monitoring system is successfully configured, complete the following steps.

### Procedure

1. Start the hub monitoring server. Check the job log for any errors.  
For more information, see [Verifying that you can start and stop the monitoring server](#).
2. Start agents' started tasks.  
If you installed the OMEGAMON® for z/OS® monitoring agent, start the real time collector component IBMM2RC. If you installed any agent other than OMEGAMON® for z/OS®, start the started task for that agent. For a list of started task names, see [Predefining and managing OMEGAMON started tasks](#). Check the job logs for errors.
3. Start the Enhanced 3270 user interface (Enhanced 3270UI) started task. Check the job logs for errors.
4. Verify that the monitoring agent is collecting data. Use a 3270 emulator to log into the Enhanced 3270UI APPLID (default CTDOBAP).  
For more information about using the Enhanced 3270UI, see [OMEGAMON enhanced 3270 user interface](#).

### What to do next

Hopefully you have seen that the PARMGEN process is easy to use, but with so much going on, it might still take some practice to fully understand and use it for optimum effect at your site. Now that you have created your first RTE, you might find that you have a better understanding and want to do things differently. If so, it is easy to delete your first RTE and create a new one. There is no reason to continue on with something that is not right for your site. However, to continue with the FTU process, you will need to re-create the same type of RTE as you did in FTU Task 4.

### Next steps

Now that you have set up your first, basic runtime environment (RTE), you can begin to modify and expand your monitoring system to meet your specific site requirements.

Complete any or all of the following tasks as you deploy monitoring in your production environment:

#### FTU task 6: (Optional) Set up a hub monitoring server on another OS

FTU task 4 had you set up a hub monitoring server on z/OS®. However, you might prefer to run your hub on a different operating system such as Linux on Z, Windows, UNIX, or Linux. You can set up another hub, then convert the z/OS hub that you previously created to a remote, and configure it to connect to the hub on a distributed system. Skip this task if you intend to run the hub monitoring server on z/OS.

- If you are not sure where you might want the hub server, see [Decision 3: Where to install your monitoring servers](#) for more information.
- To install and configure the IBM® Tivoli® Monitoring distributed components, see the [IBM® Tivoli® Monitoring: Installation and Setup Guide](#).

- To perform administrative tasks for the distributed components of IBM® Tivoli® Monitoring, see the [IBM® Tivoli® Monitoring: Administrator's Guide](#).
- To install and configure the distributed components of OMEGAMON® AI for Db2, see [IBM Z® OMEGAMON® AI for Db2 6.1](#).
- To convert the z/OS® hub monitoring server to a remote, see [Scenario RTE04: Converting a hub monitoring server to a remote](#).

### FTU task 7: Configure additional monitoring agents

You configured an RTE with a single monitoring agent. Now you might want to configure other monitoring agents that you already installed via SMP/E in this particular RTE. For example, you may want to monitor Db2 on this LPAR. If so, configure that monitoring agent. You can configure as many agents as you want all at the same time in this task.

- Verify and complete any prerequisite tasks for the additional agents you are configuring into the RTE. You can find information on product prerequisites in technote [Preinstallation Requirements and Instructions](https://www.ibm.com/support/docview.wss?uid=swg21318692) (<https://www.ibm.com/support/docview.wss?uid=swg21318692>), and in the *Program Directory* for each product.
- Complete the instructions in [Scenario RTE01: Adding a new product to an existing PARMGEN runtime environment](#).
- Run the started tasks for the products and components configured in the RTE and verify that the monitoring system is functioning.

### FTU task 8: Configure historical data collection

Historical data collection is an optional feature that is enabled through the Tivoli® Enterprise Portal or the OMEGAMON® enhanced 3270 user interface. The tasks required to enable historical reporting can be performed at any time after you have verified your installation. If you enable historical data collection, monitoring agents are instructed to take data samples at a specified interval and store it. The collected data can be displayed in workspaces in either interface, warehoused for in-depth analyses and long-term data reporting, and exported to third-party tools for reporting and analysis. (Note that not all historical data that is displayed in the Tivoli® Enterprise Portal can be displayed in the Enhanced 3270UI, and not all the near-term history displayed in the Enhanced 3270UI can be displayed in the Tivoli® Enterprise Portal.)

#### Notes:

- The Enhanced 3270 user interface cannot display data from the Tivoli® Data Warehouse, and you cannot configure the Warehouse Proxy agent or the Summarization and Pruning agent from the enhanced 3270UI.
- Using the Tivoli® Data Warehouse is optional for the IBM Z® OMEGAMON® AI for Db2 monitoring agent. The agent offers other long-term storage options.
- The z/OS® persistent data store data sets, where some of the historical data is stored on z/OS®, should have been configured earlier during *FTU Task 4* and *FTU Task 7*.

For more information on configuring the persistent data store, see [Allocate data sets and configure maintenance for historical data](#), [\(Optional\) Configure historical data collection](#), and the product-specific *Planning and Configuration Guides*.

Note that near-term historical data for OMEGAMON for z/OS for the OMEGAMON enhanced 3270 user interface can be collected from RMF. The RACF ID that is defined for the address spaces where OMEGAMON for z/OS agents run must be authorized to access RMF.

### FTU task 9: (Optional best practice) Implement system and user variables

Implementing system and user variables in the RTE is a best practice because it allows the RTE to be cloned and automatically pick up the values of the new system. Using variables also makes it easier to handle any system changes that might be made along the way.

To quickly implement system and best-practice user symbols in the RTE, complete the instructions in [How to: Merge predefined variables into configuration profiles](#).

### FTU task 10: (Optional best practice) Create a high-availability hub monitoring server

A high-availability (HA) hub monitoring server is available only when the hub resides on z/OS. On distributed systems and Linux on Z, you create a *hot standby* rather than an HA hub. Skip this task if your hub monitoring server does not reside on z/OS.

To create an HA hub and convert the current static hub monitoring server to a remote, follow the instructions in [How to: Convert an existing static hub monitoring environment to a high-availability hub environment](#).

### **FTU task 11: Install maintenance and update the RTE**

At some point, you will need to apply maintenance to your RTEs.

Apply SMP/E maintenance for products and components, then start the configuration procedures. Check the PSP and Upgrade information in the Recommended Maintenance Service Levels for OMEGAMON® products in the [ITM V6.x technote](#) for recommended maintenance. If recommended maintenance is available, obtain and apply the maintenance via SMP/E.

To update the RTE with the recommended maintenance, follow the instructions in [SMP/E maintenance and upgrade scenarios](#). Select the scenario appropriate to what you are trying to achieve and to the actions from the HOLD++ data in the SMP/E maintenance.

### **FTU task 12: Convert the RTE type for production use**

A best practice for a production RTE is to use a set of static base libraries instead of concatenating SMP/E libraries that are updated each time SMP/E maintenance is applied. This approach provides more control and increases stability of your production environment. Rather than create a new sharing-with-base RTE from scratch, you can convert the sharing-with-SMP/E environment that was created in previous steps into a sharing-with-base RTE.

To convert the existing RTE to share with a static base, complete the instructions in [How to: Convert a sharing-with-SMP/E RTE to sharing-with-base](#).

### **FTU task 13: Clone the RTE to other systems**

After you configure an RTE that reflects your requirements and best practices, you can use PARMGEN to replicate that RTE to other z/OS® images. As you replicate, you can remove various applications from the cloned environment or add new applications to the clone, change the RTE type, or change the type of monitoring server.

For instructions on how to clone the RTE to another system or LPAR, see [Cloning an existing PARMGEN runtime environment](#). For background information on cloning and moving an RTE, read [Replicating configured runtime environments](#). This information is particularly important when you are cloning an RTE that will be moved to another system.

### **FTU task 14: Consider security issues**

The monitoring framework (Tivoli® Management Services) and the OMEGAMON® monitoring products offer a number of security options, including logon security for the various interfaces, secure communication between monitoring components, and password encryption. In addition, monitoring components, started tasks, and address spaces require authorization to perform various tasks such as communicating with monitored subsystems, issuing Take Action commands, and accessing certain data.

You have already implemented the minimum security required for the basic RTE you configured (authorization for the Tivoli® Enterprise Monitoring Server to access the z/OS® UNIX® System Services file system to store data for self-describing agents). But before you begin to deploy other RTEs, you need to evaluate other security options and requirements in the light of your site standards. For more information about security options, see [Decision 9: Which security options to enable](#).

## **Cross-platform quick deployment guide for OMEGAMON**

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The purpose of this guide is to provide step-by-step instructions to set up a POV (Proof-of-value) monitoring system across Linux and z/OS for a person who has a basic understanding of the monitoring system, monitoring components, and either Configuration Manager or PARMGEN as the configuration tool.

### **About the scenario in this guide**

This guide introduces a specific scenario that deploys the monitoring structure across Linux and z/OS, which is different from the basic scenario that is illustrated in the First time deployment guide. Therefore, for a simpler scenario that consists of z/OS only, you can go through the instructions in the First time deployment guide.

To show an overall picture of deploying a monitoring system not only on z/OS, a specific scenario is introduced in this guide:

- Install Hub Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server and Tivoli Enterprise Portal on Linux.
- Install OMEGAMON AI for JVM agent on z/OS.
- No advanced security configurations.

The installation and configuration steps are tailored specifically for this scenario, which might not meet your requirement. However, by the time you finish the tasks in the guide and start the system, you will have a better understanding of how the components are installed, configured, and communicating with each other. You will have the ability to expand the POV environment, or setting up a new environment by performing similar steps.

## Background knowledge

Before you can perform the installation and configuration tasks in this guide, you must have a basic understanding of the following monitoring components:

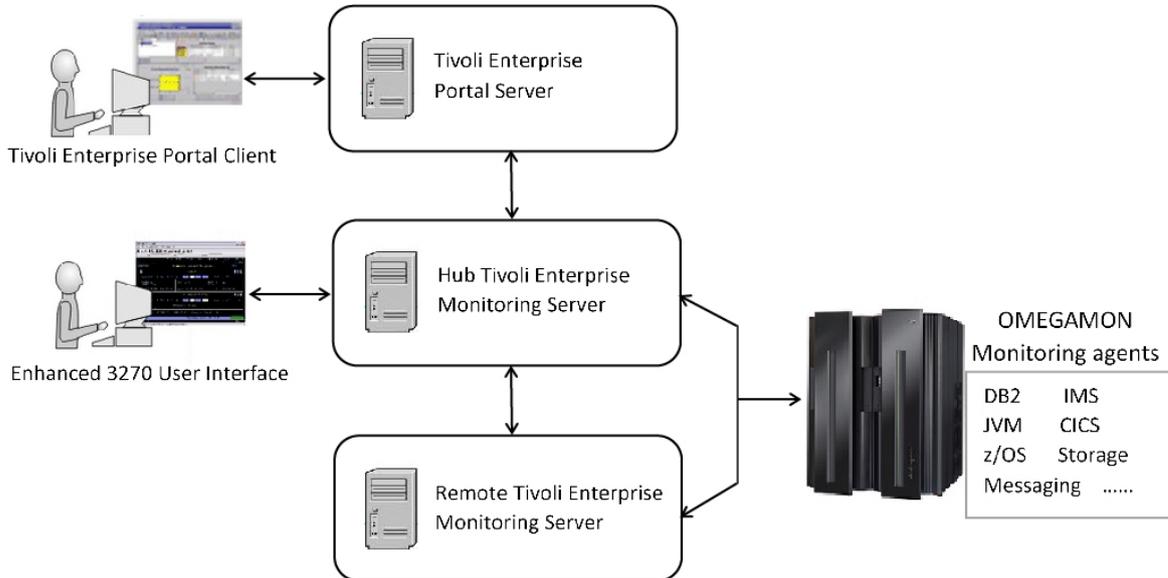


Figure 2: Basic architecture of OMEGAMON monitoring environment

### Tivoli Enterprise Monitoring Server

The nerve center of the monitoring system that consolidates the data collected by monitoring agents and distributes the data to the connected clients. It is referred to as TEMS in this guide.

Based on different functions in the monitoring systems, there are two types of TEMS:

- The *hub monitoring server* is the monitoring server of the monitoring system that acts as the focal point for data collection and distribution. It is referred to as the Hub TEMS in later topics.
- The *remote monitoring server* collects data from the monitoring agents and sends the data to the hub monitoring server for consolidation. In this way, the work on the hub monitoring server can be offloaded. It is referred to as the Remote TEMS in later topics.

### OMEGAMON Enhanced 3270 user interface

The interface on z/OS through which you can view the monitoring data. It is referred to as the enhanced 3270UI in later topics.

### Tivoli Enterprise Portal

The user interface on distributed systems for the monitoring system. It is referred to as the TEP in later topics.

### Tivoli Enterprise Portal Server

The server of TEP that communicates with the hub monitoring server to send requests to and retrieve data from monitoring agents on managed systems. It is referred to as the TEPS in later topics.

### Monitoring agents

Monitoring agents are on monitored, or managed systems. The agents pass the system or application data they collect to a Tivoli Enterprise Monitoring Server, and the data is passed to a connected client user interface.

### Configuration Manager

IBM Z Monitoring Configuration Manager (also referred to as Configuration Manager) is a tool that configures an OMEGAMON runtime environment from a set of parameters that you specify. This process is easier and faster than using the legacy PARMGEN, with its many parameters, for configuration.

### PARMGEN

A legacy configuration tool that can be used for setting up runtime environment (RTE) and monitoring components on z/OS.

### RTE (runtime environment)

An RTE (runtime environment) is a logical grouping of runtime libraries that are referenced by started tasks running on a z/OS image. When you configure monitoring servers and monitoring agents, you begin by defining a runtime environment of a certain type, which determines the number and types of runtime libraries required.

## Topology

Go through this topic to understand the topology of the monitoring system to be deployed in this guide.

The monitoring system consists of the following components:

- A Hub TEMS on a Linux server.
- A TEP on the same Linux server as the Hub TEMS.
- A TEPS on the same Linux server as the Hub TEMS.
- A Remote TEMS on z/OS.
- Enhanced 3270UI on z/OS in the same RTE (runtime environment).
- An OMEGAMON AI for JVM agent on z/OS in the same RTE.

Refer to the following figure for the relationship between the components.

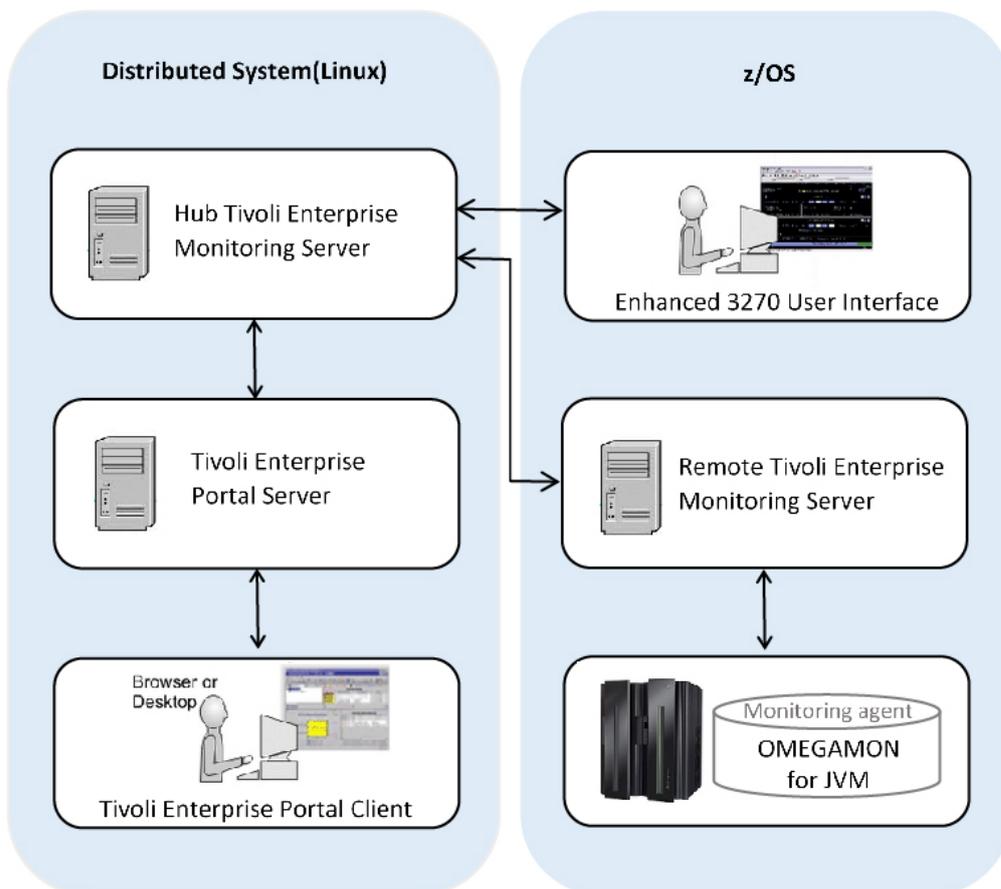


Figure 3: Topology of the monitoring system

There is only one OMEGAMON AI for JVM agent in one RTE on one LPAR as an example. You can repeat the RTE configuration steps later to create more RTEs or to deploy more monitoring components in the RTEs.

## Installation and configuration

For a monitoring environment consisting of both Linux and z/OS, the components are installed and configured on different platforms separately. Follow the instructions in this chapter to first install and configure the Hub TEMS, TEPS, and TEP on a Linux system, and then install and configure the Remote TEMS, enhanced 3270UI, and OMEGAMON AI for JVM agent on z/OS.

The overall deployment roadmap is:

1. Deploy the monitoring components on Linux.
  - a. [Check the hardware and software requirements.](#)
  - b. [Install Hub TEMS, TEPS, TEP and JVM application support.](#)
  - c. [Configuring the monitoring components.](#)
  - d. [Verify the deployment by starting the components.](#)
2. Deploy the monitoring components on z/OS.
  - a. [Order a ServerPac that includes the components and install the components via SMP/E.](#)
  - b. Use [Configuration Manager](#) or [PARMGEN](#) to create a runtime environment.
3. [Start the monitoring system and log in to either TEP or enhanced 3270UI.](#)

## Installing and configuring IBM Tivoli Monitoring components on Linux

IBM Tivoli Monitoring monitors and manages system and network applications on a variety of operating systems, tracks the availability and performance of your enterprise system, and provides reports to track trends and troubleshoot problems.

This section contains information that will assist you with installing and configuring IBM Tivoli Monitoring infrastructure components (including hub TEMS, TEPS and TEP) on Linux.

### Hardware and software requirements

Before you install the components, review the basic hardware and software requirements to make your deployment go more smoothly.

### Hardware prerequisites

The following sections describe the disk, memory, and processor requirements for the IBM Tivoli Monitoring infrastructure components on Linux.

The following list is the IBM® Tivoli® Monitoring components that are covered in this section:

- Hub Tivoli Enterprise Monitoring Server
- Tivoli Enterprise Portal Server
- Tivoli Enterprise Portal desktop client

#### Memory and disk requirements

Review the estimated memory and disk storage for IBM Tivoli Monitoring components on Linux, and make sure that your environment meet the requirements.

To install TEPS, TEP and TEMS on the same server, you need at least 3 GB RAM (2GB for the components and 1 GB for the OS and filesystem caching) and 6.8 GB disk storage available on your system.

#### Processor requirements

Multiprocessor systems are recommended for the IBM® Tivoli® Infrastructure components.

The infrastructure components (monitoring server, portal server, portal client) run as multithreaded processes and are able to run threads concurrently across multiple processors if they are available. CPU utilization for most components can be high for a short moment from time to time, and steady-state CPU utilization is

expected to be low in most cases. For components supporting large environments, using multiprocessor systems can improve throughput.

## Software prerequisites

Software prerequisite must be installed before you install IBM Tivoli Monitoring infrastructure components on Linux.

To install components on Linux, make sure that a Korn shell interpreter is available on your system.

## Installing IBM Tivoli Monitoring

The following sections provide detailed information for installing the IBM Tivoli Monitoring infrastructure components and the JVM application support.

### Installing IBM Tivoli Monitoring components

The basic architecture of IBM Tivoli Monitoring components consists of the Tivoli Enterprise Portal desktop client, the Tivoli Enterprise Portal Server, and the Tivoli Enterprise Monitoring Server. This section provides information about how to install these key components.

### Before you begin

To order IBM Tivoli Monitoring components, visit [Shopz](#).

### Procedure

1. Browse to the directory where you extracted the installation files, run the following command to start the installation:

```
./install.sh
```

2. When prompted for the IBM Tivoli Monitoring installation directory, press Enter to accept the default location /opt/IBM/ITM.
3. If the directory you specified does not exist, type **1** to create this directory.
4. Type **1** to accept to place data in the installation directory, or type **2** to specify a different directory.
5. From the installation list, type **1** and press Enter to install products to the local host.

```
Select one of the following:  
1) Install products to the local host.  
2) Install products to depot for remote deployment (requires TEMS).  
3) Install TEMS support for remote seeding  
4) Exit install.  
Please enter a valid number: 1
```

6. The license agreement is displayed. Press Enter to read through the agreement, and then type **1** to accept the agreement.
7. Press Enter to use the default encryption key. You can also specify a 32-character encryption key and press Enter to continue.
8. Install IBM Tivoli Monitoring products.
  - a. The product packages available for this operating system and component support categories are listed. For a new installation, type **1** (IBM Tivoli Monitoring components for this operating system) and press Enter to confirm your selection.
  - b. On the product list, type **3, 4, 5** and press Enter to install the Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, Tivoli Enterprise Portal desktop client for your current operating system.

```
The following products are available for installation:
1) Summarization and Pruning Agent
2) Tivoli Enterprise Monitoring Automation Server
3) Tivoli Enterprise Monitoring Server
4) Tivoli Enterprise Portal Desktop Client
5) Tivoli Enterprise Portal Server
6) Tivoli Enterprise Services User Interface Extensions
7) Tivoli Performance Analyzer
8) Warehouse Proxy
9) All of the above
Type your selections here: 3,4,5
```

- c. Type **1** to start to check prerequisites for the components before you install them. After the check, you can view the scan results. Type **1** to continue with the installation.
- d. For first-time installations only, provide a name for your TEMS. For example: *HUB\_hostname*. The default name is **TEMS**.
- e. After all of the components are installed, type **2** to not to continue with the installation of other products.
- f. When you are asked to seed product support on the TEMS, type 2 to not to seed support.

**Note:**

Seeding the monitoring server is the process of enabling application support. When you install the monitoring server, the application support available on the installation media for the monitoring server is installed automatically.

- g. Type **2** to not secure your IBM Tivoli Monitoring environment and press Enter to exit the installation.  
IBM Tivoli Monitoring provides the secureMain utility to help you keep the monitoring environment secure. You can secure your installation now, or manually execute the secureMain utility later. For more information, see [Securing your IBM Tivoli Monitoring installation on Linux or UNIX](#).
9. If the installation fails, check the log files that are created during installation to help diagnose any errors or operational issues. The log files are stored in *ITMinstall\_dir/logs*, where *ITMinstall\_dir* is the directory where you installed the product.
10. To check and verify the product version that you installed, perform as follows:
- a. Change to the directory *ITMinstall\_dir/bin*, where *ITMinstall\_dir* is the directory where you installed the product.
  - b. Issue the following command to view the information menu:  

```
./cinfo
```
  - c. Select option 1 to show products information installed.  
All the products that you installed are displayed, as well as their separate product code and version number.

## Result

The IBM Tivoli Monitoring infrastructure components are installed successfully.

## Installing JVM application support

Before you can view data collected by OMEGAMON AI for JVM, you must install and enable the JVM application support. Application support files provide agent-specific information for workspaces, helps, situations, templates, and other data.

## Before you begin

To obtain JVM application support, visit [Fix Central](#). In the **Product selector**, enter IBM Z OMEGAMON AI for JVM. For **Installed version** and **Platform**, select All and click **Continue**. Download the application support DVD: LCD7-7581-00-IBM\_Z\_OMEGAMON\_AI\_for\_JVM\_V610\_Application\_Support\_DVD.

Before you install the JVM application support, make sure that the IBM Tivoli Monitoring components are stopped.

- To stop TEMS, issue the following command, the default *tems\_name* is **TEMS**:

```
/opt/IBM/ITM/bin/itmcmd server stop tems_name
```

- To stop TEPS, issue the following command:

```
/opt/IBM/ITM/bin/itmcmd agent stop cq
```

- To stop TEP, issue the following command:

```
/opt/IBM/ITM/bin/itmcmd agent stop cj
```

## About this task

OMEGAMON AI for JVM requires that application support be configured on all instances of the following infrastructure components:

- Tivoli Enterprise Monitoring Server
- Tivoli Enterprise Portal Server
- Tivoli Enterprise Portal desktop client

## Procedure

1. Browse to the directory where you extracted the installation files, run the following command to start the installation:

```
./install.sh
```

2. When prompted for the IBM Tivoli Monitoring installation directory, press Enter to accept the default location `/opt/IBM/ITM`.
3. From the installation list, type **1** and press Enter to install products to the local host.

```
Select one of the following:  
1) Install products to the local host.  
2) Install products to depot for remote deployment (requires TEMS).  
3) Install TEMS support for remote seeding  
4) Exit install.  
Please enter a valid number: 1
```

4. The license agreement is displayed. Press Enter to read through the agreement, and then type **1** to accept the agreement.
5. Read through the information displayed and press Enter to continue.
6. Install application support for Tivoli Enterprise Portal desktop client.
  - a. On the product packages list, type **2** and press Enter to select the Tivoli Enterprise Portal Desktop Client support.

```
Product packages are available for the following  
operating systems and component support categories:  
1) Tivoli Enterprise Portal Browser Client support  
2) Tivoli Enterprise Portal Desktop Client support  
3) Tivoli Enterprise Portal Server support  
4) Tivoli Enterprise Monitoring Server support  
Type the number for the OS that you want, or type "q" to quit selection: 2
```

- b. On the application supports list, select IBM Z OMEGAMON AI for JVM.
  - c. When the installation is finished, type **1** to continue install application support for Tivoli Enterprise Portal Server.
7. Install application support for Tivoli Enterprise Portal Server.
    - a. On the product packages list, type **3** and press Enter to select the Tivoli Enterprise Portal Server support.
    - b. On the application supports list, type **1** and press Enter to select IBM Z OMEGAMON AI for JVM.

8. Install application support for Tivoli Enterprise Monitoring Server.
  - a. On the product packages list, type **4** and press Enter to select the Tivoli Enterprise Monitoring Server support.
  - b. On the application supports list, type **2** and press Enter to select IBM Z OMEGAMON AI for JVM.
9. Type **2** to exit the application support installation.
10. Press Enter to seed product support on the Tivoli Enterprise Monitoring Server.
11. Type **1** to add the default managed system groups to all the applicable situations. Or you can type **2** to not to add the default managed system group to any situation.
12. After the application support seeding is completed, type **2** and press Enter exit the installation.
13. To check and verify the product version that you installed, perform as follows:
  - a. Change to the directory `ITMinstall_dir/bin`, where `ITMinstall_dir` is the directory where you installed the product.
  - b. Issue the following command to view the information menu:
 

```
./cinfo
```
  - c. Select option **1** to show products information installed.  
All the products that you installed are displayed, as well as their separate product code and version number.

## Result

The JVM application support is installed successfully.

## Configuring IBM Tivoli Monitoring

The following sections provide detailed information for initially configuring the IBM Tivoli Monitoring infrastructure components.

### Configuring the Tivoli Enterprise Portal Server

Before you start the Tivoli Enterprise portal Server, you need to complete the following tasks to configure the portal server.

#### Procedure

1. Log in to the system where you installed Tivoli Enterprise™ Portal Server.
2. Change to the directory `ITMinstall_dir/bin`, where `ITMinstall_dir` is the directory where you installed the product.
3. Run the following command to start to configure the Tivoli Enterprise™ Portal Server:

```
./itmcmd config -A cq
```

Where `cq` is the product code for the portal server.

4. Keep pressing Enter to accept the default settings until you are asked to select the database for the portal server:

```
Which database would you like to use for TEPS (1=Embedded, 2=DB2) (Default is 2):
1
```

5. In this POV scenario, type **1** to use the embedded Derby database. If you install for a production environment in the future, then consider to use the Db2 database.
6. Type **3** to not to use any database for warehouse.

```
Are you using Db2, Oracle or None for Warehouse?[1=Db2, 2=Oracle, 3=None] (Default is:
1):
3
```

7. In the following configuration steps, keep pressing Enter to use the default settings until the end of configuration.

## Result

The Tivoli Enterprise Portal Server is successfully configured.

## Configuring the Tivoli Enterprise Portal desktop client

Complete the following steps to configure the desktop client from the command line on Linux.

### Procedure

1. Browse to the directory `/opt/IBM/ITM/bin`, or the directory where you installed IBM Tivoli Monitoring.
2. Run the following command to start to configure the Tivoli Enterprise Portal desktop client:

```
./itmcmd config -A cj
```

3. Press Enter to use the default TEP instance name (none), or provide a name for the TEP instance.
4. Type the host name for the portal server and press Enter. The default value is `'localhost'`. Sometimes `localhost` is not mapped with `127.0.0.1`, as a result, you need to manually edit the host file in your system to create the map between `localhost` and `127.0.0.1`. By default, the host file is located in `/etc/hosts`.
5. Press Enter to accept the default browser path `/usr/bin/firefox`.
6. Press Enter to not use HTTP Proxy support.

## Result

The Tivoli Enterprise Portal desktop client is successfully configured.

## Starting IBM Tivoli Monitoring

After you configure the IBM Tivoli Monitoring, you can run the command to start the components.

### Procedure

1. Browse to the directory where you installed the IBM Tivoli Monitoring: `ITMinstall_dir/bin`.
2. Start the monitoring server.  
Run the following command to start the monitoring server:

```
./itmcmd server start tems_name
```

The default name of TEMS is **TEMS**.

3. Start the portal server.  
Run the following command to start the portal server:

```
./itmcmd agent start cq
```

4. Start the portal client.  
Run the following command to start the portal client:

```
./itmcmd agent start cj
```

To log in to the portal client, you can use the default user ID **sysadmin**. No password is required to log on to the portal client unless the hub monitoring server was configured to enable **Security: Validate User**.

## Deploying monitoring components on z/OS

Install the product via a ServerPac that can be ordered on Shopz and create an RTE to configure the monitoring components.

### Installing the monitoring product on z/OS

The monitoring products and shared framework components like the monitoring server are installed via SMP/E. Skip this step if you already completed the SMP/E installation of the monitoring products and SMP/E applied them.

#### Procedure

1. Order the monitoring products in a ServerPac on [Shopz](#). The ServerPac contains all the products at the latest RSU level with some SMP/E processing already completed. For these reasons, installing a ServerPac is recommended.  
See [Packaging](#) for more information. Make sure the following products are included in the ServerPac:
  - Tivoli Management Services: search the keyword IBM Tiv Mgmt Services z/OS in Shopz.
  - IBM Z OMEGAMON AI for JVM (FMID HKJJ610): search the keyword OMEGAMON AI for JVM in Shopz.
  - FMID HKCI310 for Configuration Manager (and PARMGEN Workflow User Interface at PTF UA91953)
  - IBM® Discovery Library Adapter for z/OS®: The PARMGEN configuration tool uses the data that is collected by this component to tailor the configuration profiles and post-configuration README members.

**Note:** IBM® Discovery Library Adapter for z/OS® is part of every product package that is released for the OMEGAMON products.

2. Install all product into the same consolidated software inventory (CSI) because the monitoring products have shared elements.

#### What to do next

After you install the products via SMP/E, they must be configured to operate properly at your site.

### Using Configuration Manager to create a runtime environment

This example consists of a monitoring server, an enhanced 3270 user interface, and an OMEGAMON AI for JVM monitoring agent.

#### Prerequisites

Review the prerequisites and other considerations before you start using Configuration Manager.

Read the [prerequisites](#) for using Configuration Manager.

### Creating the runtime environment

Creates a runtime environment consisting of a monitoring server, and enhanced 3270 user interface, and an OMEGAMON AI for JVM monitoring agent.

#### Procedure

1. Submit a job that performs the **CREATE** action.

Copy and customize the job TKANSAM(KFJJMCM) to perform the **CREATE** action of Configuration Manager, then submit that job. The **CREATE** action creates a runtime environment definition library, *rte\_plib\_hilev*.RTEDEF, and populates it with an initial set of parameters.

Edit the example job statement to match your site's standards for job name, class, and message class. Consider changing the example job name prefix, UID, to your TSO user ID.

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION CREATE
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

Replace the placeholders in the example JCL with appropriate values:

**<lpar>**

Run Configuration Manager actions on the LPAR where you will start the runtime environment.

**<tlib\_hlq>**

The high-level qualifiers of the target libraries.

**<rte\_name>**

Runtime environment name, 1 - 8 characters.

Configuration Manager uses this name for various purposes, including:

- MVS member names
- MVS data set name qualifiers
- z/OS UNIX System Services directory name, all uppercase

**<rte\_plib\_hilev>**

The high-level qualifiers of the runtime environment definition library:

*rte\_plib\_hilev*.RTEDEF

Configuration Manager uses the values of **RTE\_NAME** and **RTE\_PLIB\_HILEV** to set the default value of other parameters, such as **RTE\_HILEV** and **RTE\_VSAM\_HILEV**, that are used for data set names.

To avoid exceeding the z/OS 44-character limit for data set names, the combined length of **RTE\_NAME** and **RTE\_PLIB\_HILEV** should not exceed 28 characters. For example, if **RTE\_NAME** is 8 characters, then **RTE\_PLIB\_HILEV** should not exceed 20 characters.

After running the job, check the KCIPRINT sysout data set.

2. Edit the parameters in the *rte\_plib\_hilev*.RTEDEF library to configure an OMEGAMON AI for JVM agent.

In the RTEDEF (*rte\_name*) member, set the following parameters to Y:

#### **CONFIGURE\_TEMS\_KDS**

Configures a monitoring server (Tivoli® Enterprise Monitoring Server, or TEMS)

#### **CONFIGURE\_E3270UI\_KOB**

Configures an enhanced 3270 user interface address space

#### **CONFIGURE\_JVM\_KJJ**

Configures an OMEGAMON AI for JVM monitoring agent

Set all of the other parameters to N.

```
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
RTE_SECURITY_USER_LOGON NONE
RTE_SECURITY_FOLD_PASSWORD_FLAG Y
RTE_SECURITY_CLASS ""
```

```

RTE_X_SECURITY_EXIT_LIB      <rte_plib_hilev>.<rte_name>.SECEXITS
RTE_TEMS_NAME_NODEID        <rte_name>:TEMS
RTE_TEMS_TRANSPORT_MODE     HTTPS
RTE_COMM_PROTOCOLn         IPPIPE
RTE_TCP_HOST                <sysiphostname>
RTE_TCP_PORT_NUM           1918
RTE_VTAM_APPLID_PREFIX     OM<sysclone>
RTE_STC_PREFIX              OMEG
RTE_USS_RTEDIR              "/var/rtehome"
CONFIGURE_TEMS_KDS          Y * TEMS
CONFIGURE_E3270UI_KOB       Y * Enhanced 3270
CONFIGURE_CICS_KC5          N * CICS TS
CONFIGURE_CICS_TG_KGW       N * CICS TG
CONFIGURE_DB2_AGENT_KD5     N * Db2
CONFIGURE_IMS_KI5           N * IMS
CONFIGURE_JVM_KJJ           Y * JVM
CONFIGURE_ZOS_KM5           N * z/OS
CONFIGURE_MESSAGING_KMQ     N * MQ
CONFIGURE_MESSAGING_KQI     N * Integration Bus
CONFIGURE_NETVIEW_KNA       N * Netview
CONFIGURE_MFN_KN3           N * Network
CONFIGURE_STORAGE_KS3       N * Storage
CONFIGURE_OMEGAVIEW_KWO     N * Integration Monitor
CONFIGURE_ITCAMAD_KYN       N * ITCAM for Applications
CONFIGURE_ACM_KRN           N * Advanced Catalog Mgmt
CONFIGURE_ARD_KRH           N * Advanced Rpt and Mgmt
CONFIGURE_AAD_KRG           N * Advanced Audit
CONFIGURE_AAM_KRJ           N * Advanced Alloc Mgmt
CONFIGURE_ATAM_KRK          N * Automated Tape Alloc
CONFIGURE_ABR_KRV           N * Advanced Backup and Rec
CONFIGURE_ODP_KAY           N * Data Provider

```

Also in the RTEDEF (*rte\_name*) member, set the following parameters to match your site-specific standards:

#### RTE\_STC\_PREFIX

1- to 4-character prefix of the started task names for this runtime environment. The value in the initial set of parameters is OMEG.

#### RTE\_VTAM\_APPLID\_PREFIX

Prefix of the VTAM® applids in this runtime environment. For this minimal runtime environment, there is only one VTAM® application: the enhanced 3270 user interface.

Each VTAM® application in a runtime environment has a corresponding parameter for the VTAM® applid. The default values of these parameters are the value of **RTE\_VTAM\_APPLID\_PREFIX** followed by an application-specific suffix.

In the initial set of parameters created by the **CREATE** action, the value of **RTE\_VTAM\_APPLID\_PREFIX** is *OMxx*, where *xx* is the value of the z/OS® static system symbol **SYSCONE**. **SYSCONE** is a 1- or 2-character shorthand notation for the system (LPAR) name. This value is one example of why you need to run Configuration Manager actions on the LPAR where you will start the runtime environment.

If you use these values, then the default VTAM® applid for the enhanced 3270 user interface is *OMxxOBAP*. For example, if the system (LPAR) name is ZOS1, then the VTAM® applid is OMS1OBAP.

#### RTE\_USS\_RTEDIR

The path of the z/OS UNIX directory where you want Configuration Manager to write runtime files required by the started tasks.

The TSO user ID that runs Configuration Manager jobs must have permission to write to this directory, otherwise the **GENERATE** action will fail.

#### RTE\_TCP\_PORT\_NUM

The TCP/IP port number on which the monitoring server will listen.

**Tip:** Later steps in this procedure describe how to activate VTAM® resources and APF-authorize libraries. If you insert the parameter **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** Y in the

RTEDEF (*rte\_name*) member, then the started tasks include a member that performs these steps for you.

In the RTEDEF (GBL\$PARM) member, set the following parameters:

#### **GBL\_USS\_TKANJAR\_PATH**

The z/OS UNIX path that the SMP/E installation jobs define using the ddname TKANJAR. This parameter is required when the runtime environment configures OMEGAMON AI for JVM.

#### **GBL\_HFS\_JAVA\_DIR1**

The z/OS UNIX path of the Java™ home directory.

#### **GBL\_DSN\_CSF\_SCSFMOD0**

This parameter is explicitly added in the GBL\$PARM member that is generated after the **CREATE** action, as it is relevant for several security-related aspects of the product configuration (such as password encryption). If your installation does not use the Integrated Cryptographic Service Facility (ICSF), you can remove or comment out this parameter in your RTEDEF (GBL\$PARM) or RTEDEF (GBL\$lpar).

3. Convert the hub monitoring server to a remote monitoring server.  
Edit the RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar) member for the runtime environment.  
Set the following parameters:

#### **KDS\_TEMS\_TYPE**

Change from HUB to REMOTE.

#### **KDS\_HUB\_TEMS\_NAME\_NODEID**

Set to the value of **RTE\_TEMS\_NAME\_NODEID** in the central hub runtime environment.

#### **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**

Set to the value of **RTE\_TCP\_PORT\_NUM** in the central hub runtime environment.

#### **KDS\_HUB\_TCP\_HOST**

Set to the host name of the LPAR for the central hub runtime environment.

4. Submit a job that performs the **GENERATE** action.  
The **GENERATE** action generates the runtime members for the runtime environment, including the started tasks.

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1      EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION          GENERATE
RTE_NAME        <rte_name>
RTE_PLIB_HILEV  <rte_plib_hilev>
/*
```

You have completed the steps that involve the configuration software. The remaining steps complete the configuration of the runtime environment *outside* of the configuration software.

## **Completing the runtime environment configuration**

Depending on your user privileges, you might need to ask someone else to perform some or all of the following steps. For example, only z/OS® system administrators are typically allowed to write to system libraries.

### **About this task**

These “complete the configuration” steps depend on your site-specific procedures and the requirements of the components, such as the monitoring agents, that you have chosen to configure in the runtime environment. The requirements of each component are described in the separate product documentation for each component.

Typically, at this point in the procedure for creating a runtime environment, you would need to refer to that separate documentation. However, to help make this “first runtime environment” procedure stand-alone, and because in this procedure we have selected a fixed set of specific components, the “complete the configuration” steps are presented here.

## Procedure

1. Use your site-specific procedures to copy the runtime members for started tasks and VTAM® definitions to your system libraries.  
Copy the members from the following libraries to your corresponding PROCLIB, VTAMLIB, and VTAMLST system libraries:

```
rte_hilev.SYS1.PROCLIB
rte_hilev.SYS1.VTAMLIB
rte_hilev.SYS1.VTAMLST
```

The default value of the RTE\_HILEV parameter is the value of RTE\_PLIB\_HILEV.

2. If you followed the earlier tip to set the **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** parameter to Y, then you can skip this step. However, you should still *read* this information to understand the requirements of the runtime environment for VTAM® resources and APF-authorized libraries.
  - a. Activate the VTAM® resources defined by this runtime environment.  
Issue the following **VARY ACT** MVS™ system command:

```
VARY NET,ACT,ID=rte_vtam_applid_prefixNODE,SCOPE=ALL
```

The **ID** parameter of the **VARY ACT** command must match the value of the runtime environment parameter **RTE\_VTAM\_GBL\_MAJOR\_NODE**.

The default value of **RTE\_VTAM\_GBL\_MAJOR\_NODE** is the value of **RTE\_VTAM\_APPLID\_PREFIX** followed by the string **NODE**. If you use the **RTE\_VTAM\_APPLID\_PREFIX** initial value of **OMxx**, then the default value of **RTE\_VTAM\_GBL\_MAJOR\_NODE** is **OMxxNODE**, where **xx** is the value of the z/OS® static system symbol **SYSCLONE**. For example, if the system (LPAR) name is **ZOS1**, then specify **ID=OMS1NODE**.

- b. APF-authorize libraries.  
Add the following data sets to the authorized program facility (APF) list:

- The following runtime environment library:  
`rte_hilev.rte_name.RKANMODU`
- The following target libraries, under the high-level qualifiers of the STEPLIB of the Configuration Manager job:  
TKANMOD  
TKANMODL  
TKANMODP  
TKANMODR

The runtime member `rte_hilev.SYS1.PROCLIB(rte_stc_prefixAPF)` contains **VARY ACT** and **SETPROG APF** commands for this runtime environment. Different runtime environments require different VTAM® resources and APF-authorized libraries, depending on the configured products.

If you specify the parameter **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** Y in the RTEDEF (`rte_name`) member, and then perform the **GENERATE** action, some started tasks will contain an **INCLUDE** statement to include that member, so that you do not need to issue these commands separately. Whether started tasks are allowed to perform such commands depends on your local site practices.

Setting **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** can be expedient for initial testing. However, typical best practice is to activate VTAM® resources and APF-authorize libraries during system initialization rather than each time you start a task. Use the generated `SYS1.PROCLIB(rte_stc_prefixAPF)` member to identify which libraries you need to add to the APF list at system initialization.

3. Authorize the monitoring programs.
  - a. Authorize the product started tasks:
    - i. Update RACF® or equivalent security system for the user ID (with OMVS segment) you will use for these started tasks:

- Hub and remote monitoring servers (the default started task is named **OMEGDS**)
- Enhanced 3270 user interface (the default started task is named **OMEGTOM**)
- OMEGAMON AI for JVM (the default started task is **OMEGJJ**)

ii. Identify the user ID you created as a Superuser:

```
ALU <user ID> OMVS(UID(0) HOME(/) PROGRAM(/bin/sh))
```

iii. Use the RDEFINE commands to associate the ID with the following started tasks:

- OMEGDS (the started task of the monitoring server)
- OMEGTOM (the started task of the enhanced 3270 user interface)
- OMEGJJ (the started task of the OMEGAMON AI for JVM agent)
- OMEGJT (the started task of the OMEGAMON AI for JVM collector)

```
*/associate the user ID with started tasks
RDEFINE STARTED IBMDS.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMTOM.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJJ.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJT.* STDATA(USER(userID) GROUP(SYS1))
```

iv. After you issue all the RDEFINE commands, issue the refresh command:

```
SETROPTS RACLIST(STARTED) REFRESH
```

4. Update IKJTSONn with the names of authorized monitoring programs. You might request your site's authorized system programmers to perform this step so it can be scheduled with the LPAR's change control processes.
  - Add programs KPDDSCO, KOBROUTR, and KOBSPFAU to the system PARMLIB member IKJTSONn under the AUTHPGM section.
  - Refresh the IKJTSONn member by issuing the set command (T IKJTSONn).
5. Start at least the following tasks: *rte\_stc\_prefixCN*, *rte\_stc\_prefixDS*, *rte\_stc\_prefixTOM*, *rte\_stc\_prefixJJ*, and *rte\_stc\_prefixJT*. The user ID that you associate with these started tasks must have z/OS UNIX superuser privileges and access to the runtime member.

#### ***rte\_stc\_prefixCN***

OMEGAMON® subsystem.

The OMEGAMON® subsystem does not belong to a runtime environment. You only need one OMEGAMON® subsystem per LPAR.

If the OMEGAMON® subsystem has already been started, the job for this started task will fail. The JESMSGLG output data set for the failed job will contain the following messages:

```
CNDL018I OMEGAMON SUBSYSTEM ALREADY ACTIVE ...
CNDL002I OMEGAMON SUBSYSTEM Vvrm TERMINATED ...
```

This is not a problem: your runtime environment will use the already-active subsystem.

#### ***rte\_stc\_prefixDS***

Monitoring server.

#### ***rte\_stc\_prefixTOM***

Enhanced 3270 user interface.

#### ***rte\_stc\_prefixJJ***

The default OMEGAMON AI for JVM monitoring agent name is OMEGJJ. OMEGAMON AI for JVM started task names are specified in the RTEDEF(KJJ\$PARM) member or the LPAR-specific RTEDEF(KJJ\$lpar) member.

#### ***rte\_stc\_prefixJT***

The default OMEGAMON AI for JVM collector name is OMEGJT. OMEGAMON AI for JVM started task names are specified in the RTEDEF(KJJ\$PARM) member or the LPAR-specific RTEDEF(KJJ\$*lpar*) member.

## What to do next

Complete the post-configuration steps for OMEGAMON AI for JVM: [“Completing the configuration for the OMEGAMON AI for JVM agent” on page 105.](#)

## Using PARMGEN to create a runtime environment

Use the IBM predefined LPAR runtime model QCF08 to create a sharing-with-SMP/E runtime environment (RTE). A sharing-with-SMP/E RTE contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E or a copy of SMP/e target libraries.

### About this task

The RTE will have the following components configured:

- A Remote Tivoli Monitoring Server (RTEMS)
- Enhanced 3270 user interface (enhanced 3270UI)
- OMEGAMON AI for JVM

You first start the PARMGEN configuration tool and create an RTE and then complete the configuration outside of PARMGEN.

## Preparing the environment for configuration with PARMGEN

System preparation must be completed before you can create and configure an RTE using PARMGEN.

### Procedure

1. Go through the checklist in technote [Preinstallation Requirements and Instructions.](#)

**Note:** You must have an IBM ID to use the checklist. Make sure all items in the checklist are met, and then move to the next step.

2. Create a new file system for OMEGAMON AI for JVM that use the **RTE\_USS\_RTEDIR** home directory parameter.  
This file system must be created, mounted, and in read/write mode before the z/OS® UNIX® System Services jobs that define the file system paths are submitted. Select a name for your RTE that establishes or fits a naming convention that can be used as you install additional RTEs. The KCIUSSJB sample job in the *gbl\_target\_hilev*.TKANSAM SMP/E target library is run in the following RTE configuration task. In the **MOUNT FILESYSTEM** command, the **MOUNTPOINT()** parameter equates to the value you will specify for the **RTE\_USS\_RTEDIR** parameter. For example, run the following TSO command:

```
MOUNT FILESYSTEM('&hlq_rte_home') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/rtehome') PARM('AGGRGROW')
```

So an example of this using RTE name TSTEST might be:

```
MOUNT FILESYSTEM('OMVS.TSTEST.HFS') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/tstest') PARM('AGGRGROW')
```

**Note:** Take note of the SMP/E TKANJAR DDDEF location in z/OS UNIX, which is key to the PARMGEN WCONFIG(\$GLB\$USR) GBL\_USS\_TKANJAR\_PATH required parameter when OMEGAMON AI for JVM 6.1 is installed.

3. Authorize the monitoring programs.
  - a. Authorize the product started tasks:

- i. Update RACF® or equivalent security system for the user ID (with OMVS segment) you will use for these started tasks:
  - Hub and remote monitoring servers (the default started task is named **IBMDS**)
  - Enhanced 3270 user interface (the default started task is named **IBMTOM**)
  - OMEGAMON AI for JVM (the default started task is **IBMJJ**)

- ii. Identify the user ID you created as a Superuser:

```
ALU <user ID> OMVS(UID(0) HOME(/) PROGRAM(/bin/sh))
```

- iii. Use the RDEFINE commands to associate the ID with the following started tasks:

- IBMDS (the started task of the monitoring server)
- IBMTOM (the started task of the enhanced 3270 user interface)
- IBMJJ (the started task of the OMEGAMON AI for JVM agent)
- IBMJT (the started task of the OMEGAMON AI for JVM collector)

```
*/associate the user ID with started tasks
RDEFINE STARTED IBMDS.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMTOM.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJJ.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJT.* STDATA(USER(userID) GROUP(SYS1))
```

- iv. After you issue all the RDEFINE commands, issue the refresh command:

```
SETROPTS RACLIST(STARTED) REFRESH
```

4. Update IKJTSOnn with the names of authorized monitoring programs. You might request your site's authorized system programmers to perform this step so it can be scheduled with the LPAR's change control processes.
  - Add programs KPDDSCO, KOBROUTR, and KOBSPFAU to the system PARMLIB member IKJTSOnn under the AUTHPGM section.
  - Refresh the IKJTSOnn member by issuing the set command (T IKJTSO=nn).

## What to do next

After you finish the preparation tasks, go to PARMGEN and create an RTE.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same global properties is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

## Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your <USERID> TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT      /  STORCLAS /
                                VOLSER   /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                                HLQ of SMP/E target (TK*) datasets  -----

Note:
If this is not the first time your <USERID> ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in <USERID>'s ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, <gbl_target_hilev>.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example:  
MY.RTE.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: MY.RTE.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique:  
%RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu.  
The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu. The first **Set up PARMGEN work environment for an RTE** panel is displayed.
2. On panel KCIPQPG1, leave the field blank to create a new RTE.
3. Uncomment out the first two lines of the jobcard and specify values according to your environment.
4. Press Enter to proceed to the next panel. The **Set up PARMGEN Work Environment for an RTE (2 of 3)** panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```
KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                                Quick Configuration Mode
GBL_USER_JCL: MY.RTE.PARMGEN.JCL
RTE_PLIB_HILEV: MY.RTE
RTE_NAME: SYSA

Enter parameter values appropriate for your environment:
                                UNIT / STORCLAS /
                                VOLSER / MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets -----
GBL_SYSDA_UNIT: SYSDA___
                   Work datasets UNIT name
GBL_REGION: OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel. Type UTIL to access utility menu.
```

5. Review the values on the panel and override them as necessary.

#### **GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

#### **GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

#### **GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

6. Press Enter to proceed to the next panel. The **Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed. The panel contains the values shown in the following figure.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=SYSA.
Press F1=Help for more information.

RTE_DESCRIPTION:      DESCRIPTION_____
More:                +

RTE_TYPE:             SHARING_          (Full, Sharing)
RTE_HILEV:            MY.RTE_____ (ex.: MY.RTE
                        (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      MY.RTE_____ (ex.: MY.RTE
                        (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                        (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP_____ ("SMP" value or *&rte_share)
                        (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS: _____
RTE_X_SECURITY_EXIT_LIB: MY.RTE.SYSA.RKANSAMU_____
GBL_DSN_ACF2_MACLIB: _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE: REMOTE__ (Hub, Remote)
KDS_TEMS_HA_TYPE: -- (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM: 1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX: IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Note the **More: +** which indicates that there is additional content on the panel.)

7. Provide values to required fields.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Supply the high-level qualifier and the name for the base libraries:
    - **RTE\_X\_HILEV\_SHARING**
    - **RTE\_SHARE**
8. Press Enter to proceed to the next panel.

The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```

KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KDS Tivoli Enterprise Monitoring Server V630

/ KJJ OMEGAMON Monitoring for JVM V610
/ KOB OMEGAMON Enhanced 3270 User Interface V730
End of data

```

If you have other products in the ServerPac that you installed, they will be shown in the list as well.

9. All products are selected by default in the model. Make sure Tivoli Enterprise Monitoring Server (KDS), OMEGAMON Monitoring for JVM (KJJ), and OMEGAMON Enhanced 3270 User Interface (KOB) selected. Deselect other products if any, then change `Confirm ==> N` to Y, and press Enter. The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job by typing `SUBMIT` or `SUB` in the **Command** line and press Enter. The KCIJPCFG jobs submits a second job, KCIJPPRF. Wait for both jobs to complete successfully before proceeding to the next step.
11. Return to the Workflow - Primary Option Menu by pressing F3.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPIPE and SNA defaults, and the like). You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Select 1 to review and edit the RTE profile. Review the configuration profile before editing it. Make sure the following parameters are configured, and accept default values for other parameters:
  - For the Remote TEMS, at a minimum you must set the `KDS_HUB_*` parameters to the appropriate values for the Hub TEMS that is installed on Linux system.
    - **KDS\_HUB\_TEMS\_NAME\_NODEID**
    - **KDS\_HUB\_TCP\_HOST**
    - **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**
  - To specify the z/OS® UNIX® System Services directory that is used for the OMEGAMON AI for JVM, set the following parameters:
    - **RTE\_USS\_RTEDIR**
  - Make sure the following parameter is configured for the network address (IP hostname or IP address) of the Remote TEMS that the Agent will report to. Normally this parameter is auto-discovered. Review its value and make sure it is correct.
    - **KJJ\_TEMS\_TCP\_HOST**

Return to the Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) after you edit the parameters.

3. Select 2 to review and edit the \$GBL\$USR global profile.  
Specify values to the following parameters:
  - **GBL\_DSN\_CSF\_SCSFMODE** for load library. By default, this parameter is commented out in the WCONFIG(\$GBL\$USR) member. Normally this parameter is auto-discovered by the DLA job. Review this parameter to make sure the value is correct.
  - **GBL\_USS\_TKANJAR\_PATH** for the TKANJAR DDDEF file system path

Return to the Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) after you edit the parameters.

4. Return to the Workflow - Primary Option Menu.

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name  Status  Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information.  Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.
3. (Conditional) If the job failed with the return code 0008, go to the **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1), type 1s and press Enter. The job status window displays. Press Enter to continue to the Parameter Validation Report. Fix the errors detected in the report, and repeat step 1 and step 2.

## Completing the setup of the runtime environment

The final step in setting up the runtime environment (RTE) using the configuration software is submitting the batch jobs that were created in the preceding step. These jobs allocate the necessary data sets.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL: MY.RTE.PARMGEN.JCL
RTE_PLIB_HILEV: MY.RTE
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs      (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More: +

Press F1=Help for more information. Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Select option 1 for the **Composite SUBMIT job**, which will run the required jobs altogether. Review the job description and submit the job.  
You can also submit each job individually.
3. If the jobs complete with any errors, review the \$IVPRPT verification report in the WCONFIG library. Correct any errors and rerun any jobs that did not complete successfully. Rerun the KCIJPIVP verification job until all errors have been eliminated.

## What to do next

**Note:** Make sure the following started tasks run in a proper service class in Work Load Manager:

- The started task of TEMS: **IBMDS**. SYSSTC or STCHIGH are suitable priority levels for this started task.
- The started task of enhanced 3270UI: **IBMTOM**. SYSSTC or STCHIGH are suitable priority levels for this started task.

- The started tasks of the OMEGAMON for JVM agent and collector: **IBMJJ** and **IBMJT**. Make sure the service class of these started tasks are equal to or higher than that of the object they are monitoring.

Then complete any configuration required outside of the configuration software.

## Configuring the components outside of PARMGEN

After you complete the configuration steps in PARMGEN, you must take additional steps outside the configuration software to complete the configuration of your monitoring components before you start the product started tasks. Complete the post configuration steps listed in this guide and you will be able to complete the configuration of the Remote TEMS, enhanced 3270UI, and the OEMGAMON AI for JVM agent on z/OS.

### APF-authorize the runtime load libraries

The runtime load libraries created by the configuration software must be added to your list of APF-authorized libraries.

### About this task

This step is applicable only if you did not enable the optional `RTE_X_STC_INAPF_INCLUDE_FLAG` parameter to generate inline APF-authorized statements in the product started tasks.

### Procedure

- Add the following runtime load libraries to your list of APF-authorized libraries.
  - `rhilev.rte.RKANMOD`
  - `rhilev.rte.RKANMODU`
  - `rhilev.rte.RKANMODL`
  - `rhilev.rte.RKANMODP`

You can run the following commands to do this:

```
*/commands to APF the needed libraries
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMOD,VOL(xxxxxx)
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMODU,VOL(xxxxxx)
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMODL,VOL(xxxxxx)
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMODP,VOL(xxxxxx)
```

Any other runtime libraries concatenated in the STEPLIB DDNAME or in the RKANMODL DDNAME of started tasks must also be APF-authorized.

If the runtime environment shares target libraries that were installed by SMP/E, you must also APF-authorize the following libraries:

- `thilev.TKANMOD`
- `thilev.TKANMODL`
- `thilev.TKANMODP`

### What to do next

Some monitoring agents require additional target libraries. Check the product-specific planning and configuration guides for a complete list of runtime libraries to include.

## Completing the configuration for the OMEGAMON AI for JVM agent

After you configure OMEGAMON AI for JVM using Configuration Manager or PARMGEN, you must complete several post-configuration steps. The post-configuration steps that you must complete are a combination of required steps and optional steps that depend on your particular configuration and monitoring objectives.

Step	Context
<a href="#">Configuring a JVM for monitoring with the OMEGAMON for JVM Agents</a>	Required for all configurations
<a href="#">Configuring JVMs in CICS</a>	Required to monitor a Java™ virtual machine (JVM) that runs in a CICS® subsystem
<a href="#">Configuring JVMs in a CICS Transaction Gateway subsystem</a>	Required to monitor a Java™ virtual machine (JVM) that runs in a CICS® Transaction Gateway subsystem
<a href="#">Configuring JVMs in an IBM Db2 stored procedure</a>	Required to monitor a JVM that runs in an IBM Db2® stored procedure
<a href="#">Configuring JVMs in IBM Operational Decision Manager</a>	Required to monitor a JVM that runs in IBM Operational Decision Manager (IBM ODM)
<a href="#">Configuring JVMs in an IMS batch or message processing region</a>	Required to monitor a Java™ virtual machine (JVM) that runs in an IMS™ Java Batch Processing (JBP) region or Java Message Processing (JMP)
<a href="#">Configuring JVMs in WebSphere Application Server</a>	Required to monitor a JVM that runs in WebSphere® Application Server
<a href="#">Configuring JVMs in WebSphere Liberty</a>	Required to monitor a Java virtual machine (JVM) that runs in WebSphere Liberty
<a href="#">Configuring JVMs in z/OSMF</a>	Required to monitor a Java™ virtual machine (JVM) that runs in z/OSMF
<a href="#">Configuring z/OS Connect for API monitoring</a>	Required for all configurations
<a href="#">Configuring JVMs that use the JZOS Batch Launcher</a>	Required to monitor a Java™ virtual machine (JVM) that uses the JZOS Batch Launcher
<a href="#">Specifying a non-default collector ID</a>	Required when you don't use the default <code>KJJ_COLLECTOR_ID=KJJ1</code> collector ID
<a href="#">Refreshing jar files after SMP/E maintenance</a>	Required for all configurations
<a href="#">Enabling IBMJT JTCOLL collector trace options</a>	Required to enable debugging in the IBMJT JTCOLL collector started task
<a href="#">Publishing OMEGAMON AI for JVM data to analytic platforms for AI Ops (including OMEGAMON Data Provider)</a>	Required to publish data to OMEGAMON Data Provider

## Starting the monitoring system

All monitoring components are installed and configured. You can start the monitoring system and monitor the application status either on Linux via TEP or on z/OS via enhanced 3270UI.

### About this task

**Note:** To guarantee the monitoring components work properly, start the Hub TEMS, TEPS, and TEP on the Linux server first, and then start the started tasks of the Remote TEMS, enhanced 3270UI, and OMEGAMON AI for JVM agent on z/OS.

### Procedure

1. Start the TEMS, TEP, and TEPS on the Linux server.

- a. On the Linux server, browse to the directory where you installed the IBM Tivoli Monitoring: *ITMinstall\_dir/bin*.
- b. Start the monitoring server.  
Run the following command to start the monitoring server:

```
./itmcmd server start tems_name
```

- c. Start the portal server.  
Run the following command to start the portal server:

```
./itmcmd agent start cq
```

- d. Start the portal client.  
Run the following command to start the portal client:

```
./itmcmd agent start cj
```

2. On z/OS, start the started tasks of the Remote TEMS, enhanced 3270UI, and OMEGAMON AI for JVM agent by running the following commands.

```
S IBMDS
S IBMTOM
S IBMJJ
```

In the RKLVLLOG for the monitoring server address space, look for the following messages to indicate successful startup:

```
KDSMA001 Tivoli Enterprise Monitoring Server (TEMS) data collection server started.
K04SRV032 Tivoli Enterprise Monitoring Server (TEMS) startup complete.
```

Look also for the following messages to indicate successful establishment of a communications path by the local location broker:

```
KDSNC007 Local Location Broker is active
KDSNC004 Bind of local location broker complete= protocol_name:address
```

Also look for the messages that indicate successful connection between the OMEGAMONAI for JVM agent and the local Remote TEMS.

From the Remote TEMS started task IBMDS:

```
Remote node <KJJ:SYSA:JVM> is ON-LINE
```

From the OMEGAMON AI for JVM agent started task IBMJJ:

```
Starting Enterprise situation HEARTBEAT
No action is required., Producer (IRA Constructor)
Timer for owner KPX.RNODESTS started.
Connecting to CMS SYSA:CMS
```

## Result

The monitoring system is started.

## What to do next

You can access the monitoring system through TEP or enhanced 3270UI:

- To log in to the TEP client, you can use the default user ID **sysadmin**. No password is required to log on to the portal client unless the hub monitoring server was configured to enable **Security: Validate User**.
- To log in to the enhanced 3270UI, start a new VTAM 3270 session and run the following command at the VTAM logon panel.

```
LOGON APPLID(applid)
```

where *applid* is the VTAM Applid of the enhanced 3270UI address space. Then enter your user ID and password and press Enter.

## Extension guide for OMEGAMON

The purpose of this guide is to provide instructions for adding a new monitoring agent to an existing monitoring infrastructure.

### About the scenario in this guide

To better illustrate the procedure of adding a new monitoring agent to an existing monitoring infrastructure, the OMEGAMON AI for JVM agent will be used as an example and will be added to a monitoring infrastructure that is similar to the one that is set up in the Cross-platform quick deployment guide. The steps of adding other agents is similar.

Before using this guide, it is expected that you have a basic understanding of the monitoring infrastructure and the relationship between different monitoring components. Otherwise, it is recommended that you start with the First time deployment guide, or the Cross-platform quick deployment guide to set up a functional RTE, then refer to this guide for extension steps.

## Topology

Go through this topic to understand the topology of the monitoring system to be deployed in this guide.

The existing monitoring environment of the scenario in this guide has the following components:

- A Hub TEMS, a TEP, and a TEPS on a Linux server.
- A Remote TEMS, an e3270UI on z/OS in LPARx.
- Multiple monitoring agents like OMEGAMON for CICS and OMEGAMON for IMS running in the same LPAR.

Refer to the following figure for the relationship between the components.

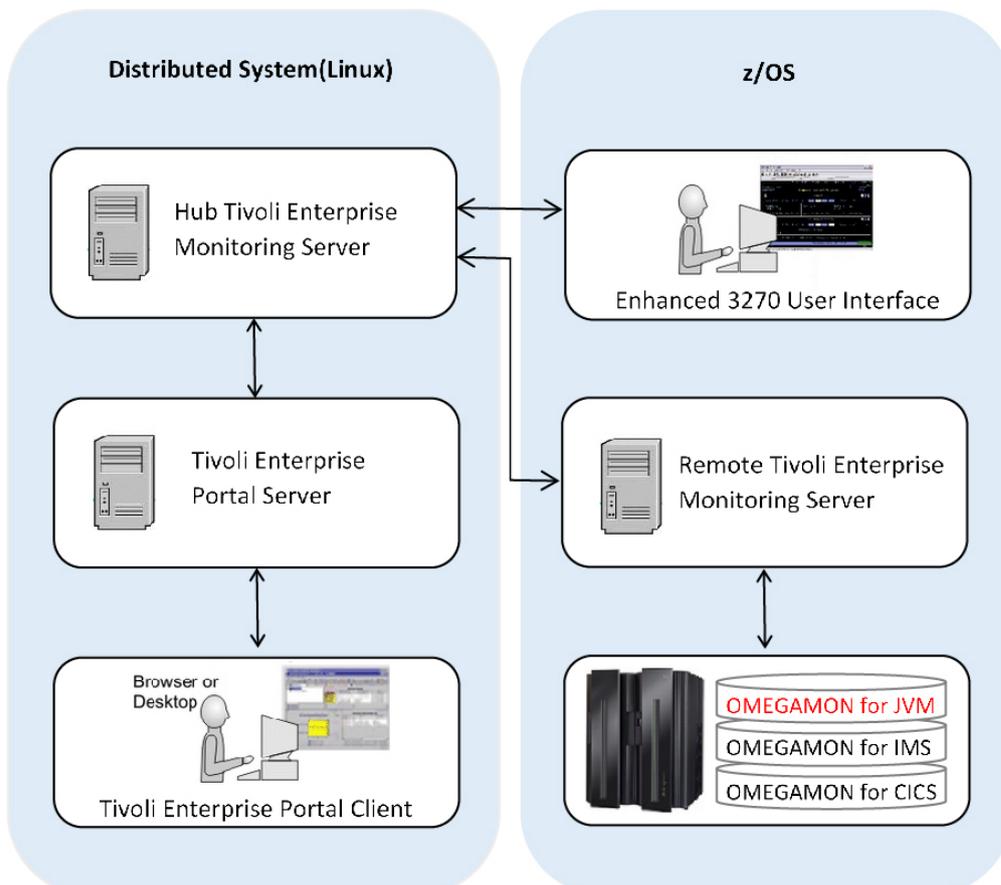


Figure 4: Topology of the monitoring system

**Note:** In this scenario, an OMEGAMON AI for JVM agent is added to the RTE that is running on LPARx. You can repeat the configuration steps in this guide to add the agent to other RTEs in other LPARs.

## RTE configuration

OMEGAMON AI for JVM can use either IBM Z Monitoring Configuration Manager (Configuration Manager) or Parameter Generator (PARMGEN) as its configuration tool. It is recommended to use Configuration Manager, though PARMGEN is also supported.

To use Configuration Manager, follow the steps in [Using Configuration Manager to add OMEGAMON AI for JVM to an existing RTE](#).

To use PARMGEN, follow the steps in [Using PARMGEN to add OMEGAMON AI for JVM to an existing RTE](#).

### Using Configuration Manager to add OMEGAMON AI for JVM to an existing RTE

Use this procedure add an IBM Z OMEGAMON AI for JVM, 6.1 agent to an existing runtime environment (RTE) using IBM Z Monitoring Configuration Manager.

This procedure assumes that you already have an RTE defined in your RTEDEF library and that the agent software (version 6.1) is installed and available. For additional details, see the [IBM Z OMEGAMON AI for JVM](#) and [Configuration Manager](#) documentation. Be sure to review your site's prerequisites, security, and network settings before proceeding.

### Prerequisites

Ensure that the IBM Z OMEGAMON AI for JVM 6.1 agent and its support files are installed in the SMP/E target libraries.

Confirm that you have the following prerequisites:

- Ensure that the IBM Z OMEGAMON AI for JVM, 6.1 agent is installed and its application support files are accessible in your SMP/E target libraries.
- Confirm that you have an existing runtime environment (RTE) defined in your RTEDEF library (for example, *rte\_plib\_hilev*.RTEDEF).
- Verify that you have proper read/write access to the RTEDEF library and that a current backup of the configuration is available.
- Make certain that your user ID has sufficient administrative privileges and that all necessary networking and security settings are correctly configured.

### Update the runtime environment

Edit the parameters in the RTEDEF (*rte\_name*) library to meet your requirements for the runtime environment, and then submit a job that performs the **GENERATE** action to generate runtime members from those parameters.

### About this task

Updating a runtime environment encompasses many scenarios. For example:

- Applying maintenance, after using SMP/E to update target libraries
- Upgrading an agent to a new product release
- Adding or removing agents
- Changing parameter values; for example, to change a hub monitoring server to a remote monitoring server

The procedure for updating the runtime environment is the same for every scenario.

### Procedure

1. Edit the parameters in the `rte_plib_hilev`.RTEDEF library to configure an OMEGAMON AI for JVM agent.

In the RTEDEF (`rte_name`) member, set the following parameter to Y:

### CONFIGURE\_JVM\_KJJ

Configures an OMEGAMON AI for JVM monitoring agent

```
RTE_NAME                <rte_name>
RTE_PLIB_HILEV          <rte_plib_hilev>
RTE_SECURITY_USER_LOGON NONE
RTE_SECURITY_FOLD_PASSWORD_FLAG Y
RTE_SECURITY_CLASS      ""
RTE_X_SECURITY_EXIT_LIB <rte_plib_hilev>.<rte_name>.SECEXITS
RTE_TEMS_NAME_NODEID    <rte_name>:TEMS:RTE_COMM_PROTOCOL1
RTE_COMM_PROTOCOLn     IPPPIPE
RTE_TCP_HOST            <sysiphostname>
RTE_TCP_PORT_NUM       1918
RTE_VTAM_APPLID_PREFIX OM<sysclone>
RTE_STC_PREFIX         OMEG
RTE_USS_RTEDIR         "/var/rtehome"
CONFIGURE_TEMS_KDS      Y * TEMS
CONFIGURE_E3270UI_KOB   Y * Enhanced 3270
CONFIGURE_CICS_KC5      Y * CICS TS
CONFIGURE_CICS_TG_KGW   Y * CICS TG
CONFIGURE_DB2_AGENT_KD5 N * Db2
CONFIGURE_IMS_KI5       Y * IMS
CONFIGURE_JVM_KJJ       Y * JVM
CONFIGURE_ZOS_KM5       N * z/OS
CONFIGURE_MESSAGING_KMQ N * MQ
CONFIGURE_MESSAGING_KQI N * Integration Bus
CONFIGURE_NETVIEW_KNA   N * Netview
CONFIGURE_MFN_KN3       N * Network
CONFIGURE_STORAGE_KS3   N * Storage
CONFIGURE_OMEGAVIEW_KWO N * Integration Monitor
CONFIGURE_ITCAMAD_KYN   N * ITCAM for Applications
CONFIGURE_ACM_KRN       N * Advanced Catalog Mgmt
CONFIGURE_ARD_KRH       N * Advanced Rpt and Mgmt
CONFIGURE_AAD_KRG       N * Advanced Audit
CONFIGURE_AAM_KRJ       N * Advanced Alloc Mgmt
CONFIGURE_ATAM_KRK      N * Automated Tape Alloc
CONFIGURE_ABR_KRV       N * Advanced Backup and Rec
CONFIGURE_ODP_KAY       N * Data Provider
```

2. Submit a job that performs the **GENERATE** action.

The **GENERATE** action generates the runtime members for the runtime environment, including the started tasks.

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION GENERATE
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

You have completed the steps that involve the configuration software. The remaining steps complete the configuration of the runtime environment *outside* of the configuration software.

## Completing the runtime environment configuration

Depending on your user privileges, you might need to ask someone else to perform some or all of the following steps. For example, only z/OS® system administrators are typically allowed to write to system libraries.

### About this task

These “complete the configuration” steps depend on your site-specific procedures and the requirements of the components, such as the monitoring agents, that you have chosen to configure in the runtime environment. The requirements of each component are described in the separate product documentation for each component.

Typically, at this point in the procedure for creating a runtime environment, you would need to refer to that separate documentation. However, to help make this “first runtime environment” procedure stand-alone, and because in this procedure we have selected a fixed set of specific components, the “complete the configuration” steps are presented here.

## Procedure

1. Use your site-specific procedures to copy the runtime members for started tasks and VTAM® definitions to your system libraries.  
Copy the members from the following libraries to your corresponding PROCLIB, VTAMLIB, and VTAMLST system libraries:

```
rte_hilev.SYS1.PROCLIB
rte_hilev.SYS1.VTAMLIB
rte_hilev.SYS1.VTAMLST
```

The default value of the RTE\_HILEV parameter is the value of RTE\_PLIB\_HILEV.

2. If you followed the earlier tip to set the **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** parameter to Y, then you can skip this step. However, you should still *read* this information to understand the requirements of the runtime environment for VTAM® resources and APF-authorized libraries.
  - a. Activate the VTAM® resources defined by this runtime environment.  
Issue the following **VARY ACT** MVS™ system command:

```
VARY NET,ACT,ID=rte_vtam_applid_prefixNODE,SCOPE=ALL
```

The **ID** parameter of the **VARY ACT** command must match the value of the runtime environment parameter **RTE\_VTAM\_GBL\_MAJOR\_NODE**.

The default value of **RTE\_VTAM\_GBL\_MAJOR\_NODE** is the value of **RTE\_VTAM\_APPLID\_PREFIX** followed by the string **NODE**. If you use the **RTE\_VTAM\_APPLID\_PREFIX** initial value of **OMxx**, then the default value of **RTE\_VTAM\_GBL\_MAJOR\_NODE** is **OMxxNODE**, where **xx** is the value of the z/OS® static system symbol **SYSCLONE**. For example, if the system (LPAR) name is **ZOS1**, then specify **ID=OMS1NODE**.

- b. APF-authorize libraries.  
Add the following data sets to the authorized program facility (APF) list:

- The following runtime environment library:  
`rte_hilev.rte_name.RKANMODU`
- The following target libraries, under the high-level qualifiers of the STEPLIB of the Configuration Manager job:  
TKANMOD  
TKANMODL  
TKANMODP  
TKANMODR

The runtime member `rte_hilev.SYS1.PROCLIB(rte_stc_prefixAPF)` contains **VARY ACT** and **SETPROG APF** commands for this runtime environment. Different runtime environments require different VTAM® resources and APF-authorized libraries, depending on the configured products.

If you specify the parameter **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** Y in the RTEDEF (`rte_name`) member, and then perform the **GENERATE** action, some started tasks will contain an **INCLUDE** statement to include that member, so that you do not need to issue these commands separately. Whether started tasks are allowed to perform such commands depends on your local site practices.

Setting **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** can be expedient for initial testing. However, typical best practice is to activate VTAM® resources and APF-authorize libraries during system initialization rather than each time you start a task. Use the generated `SYS1.PROCLIB(rte_stc_prefixAPF)` member to identify which libraries you need to add to the APF list at system initialization.

3. Authorize the monitoring programs.
  - a. Authorize the product started tasks:
    - i. Update RACF® or equivalent security system for the user ID (with OMVS segment) you will use for these started tasks:

- Hub and remote monitoring servers (the default started task is named **OMEGDS**)
- Enhanced 3270 user interface (the default started task is named **OMEGTOM**)
- OMEGAMON AI for JVM (the default started task is **OMEGJJ**)

ii. Identify the user ID you created as a Superuser:

```
ALU <user ID> OMVS(UID(0) HOME(/) PROGRAM(/bin/sh))
```

iii. Use the RDEFINE commands to associate the ID with the following started tasks:

- OMEGDS (the started task of the monitoring server)
- OMEGTOM (the started task of the enhanced 3270 user interface)
- OMEGJJ (the started task of the OMEGAMON AI for JVM agent)
- OMEGJT (the started task of the OMEGAMON AI for JVM collector)

```
*/associate the user ID with started tasks
RDEFINE STARTED IBMDS.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMTOM.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJJ.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJT.* STDATA(USER(userID) GROUP(SYS1))
```

iv. After you issue all the RDEFINE commands, issue the refresh command:

```
SETROPTS RACLIST(STARTED) REFRESH
```

4. Update IKJTSONn with the names of authorized monitoring programs. You might request your site's authorized system programmers to perform this step so it can be scheduled with the LPAR's change control processes.
  - Add programs KPDDSCO, KOBROUTR, and KOBSPFAU to the system PARMLIB member IKJTSONn under the AUTHPGM section.
  - Refresh the IKJTSONn member by issuing the set command (T IKJTSONn).
5. Start at least the following tasks: *rte\_stc\_prefixCN*, *rte\_stc\_prefixDS*, *rte\_stc\_prefixTOM*, *rte\_stc\_prefixJJ*, and *rte\_stc\_prefixJT*. The user ID that you associate with these started tasks must have z/OS UNIX superuser privileges and access to the runtime member.

#### ***rte\_stc\_prefixCN***

OMEGAMON® subsystem.

The OMEGAMON® subsystem does not belong to a runtime environment. You only need one OMEGAMON® subsystem per LPAR.

If the OMEGAMON® subsystem has already been started, the job for this started task will fail. The JESMSGLG output data set for the failed job will contain the following messages:

```
CNDL018I OMEGAMON SUBSYSTEM ALREADY ACTIVE ...
CNDL002I OMEGAMON SUBSYSTEM Vvrm TERMINATED ...
```

This is not a problem: your runtime environment will use the already-active subsystem.

#### ***rte\_stc\_prefixDS***

Monitoring server.

#### ***rte\_stc\_prefixTOM***

Enhanced 3270 user interface.

#### ***rte\_stc\_prefixJJ***

The default OMEGAMON AI for JVM monitoring agent name is OMEGJJ. OMEGAMON AI for JVM started task names are specified in the RTEDEF(KJJ\$PARM) member or the LPAR-specific RTEDEF(KJJ\$*lpar*) member.

#### ***rte\_stc\_prefixJT***

The default OMEGAMON AI for JVM collector name is OMEGJT. OMEGAMON AI for JVM started task names are specified in the RTEDEF(KJJ\$PARM) member or the LPAR-specific RTEDEF(KJJ\$*lpar*) member.

## What to do next

Complete the post-configuration steps for OMEGAMON AI for JVM: [“Completing the configuration for the OMEGAMON AI for JVM agent” on page 105.](#)

## Using PARMGEN to add OMEGAMON AI for JVM to an existing RTE

Describes how to add an IBM Z OMEGAMON AI for JVM, 6.1 agent to an existing runtime environment (RTE) using the PARMGEN configuration tool.

### About this task

The key to adding a new product to an existing RTE is the Include Products in this PARMGEN RTE panel (KCIP@PGI). You regenerate the KCIJPCFG setup job and add the new product by selecting it on the Include Products panel. After you submit the job, the RTE configuration profile is updated with the parameters for that product. Then, you can customize those parameters by editing the profile. You run the \$PARSE job to recreate the runtime members and jobs, and then resubmit the jobs to complete the reconfiguration of the RTE with the new product.

### Preparing the environment for configuration

You must prepare your system before adding the OMEGAMON AI for JVM agent to your RTE.

### Procedure

1. Make sure that **IBM Z OMEGAMON AI for JVM on z/OS** (FMID HKJJ610) is SMP/E installed in the same CSI as other monitoring components.
2. Create a new file system for OMEGAMON AI for JVM that uses the **RTE\_USS\_RTEDIR** home directory parameter. If the RTE already enabled SDA, or has OMEGAMON for CICS TG agent configured, it means the z/OS® UNIX® System Services directory already exists, and you can skip this step. This file system must be created, mounted, and in read/write mode before the z/OS® UNIX® jobs that define the file system paths are submitted. Select a name for your RTE that establishes or fits a naming convention that can be used as you install additional RTEs. The KCIUSSJB sample job in the *gbl\_target\_hilev*.TKANSAM SMP/E target library is run in the following RTE configuration task. In the **MOUNT FILESYSTEM** command, the **MOUNTPOINT()** parameter equates to the value you will specify for the **RTE\_USS\_RTEDIR** parameter. For example:

```
"MOUNT FILESYSTEM('&hlq_rte_home') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/rtehome') PARM('AGGRGROW')"
```

So an example of this using RTE name TSTEST might be:

```
"MOUNT FILESYSTEM('OMVS.TSTEST.HFS') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/tstest') PARM('AGGRGROW')"
```

**Note:** Take note of the SMP/E TKANJAR DDDEF location in z/OS UNIX, which is key to the PARMGEN WCONFIG(\$GLB\$USR) GBL\_USS\_TKANJAR\_PATH required parameter when OMEGAMON AI for JVM is installed.

3. To use the autodiscovery function properly, give the user ID proper RACF authorities and make sure the SMPTLOAD DDDEF statement is defined in the CSI:
  - The user ID must have the following authorities:
    - READ access is recommended for all the data sets in the system PARMLIB concatenation used during IPL.
    - An OMVS segment with authority to issue the netstat, host and home commands.

- If you are upgrading from an older version of a product that does not support IBM® Discovery Library Adapter for z/OS®, make sure that SMPTLOAD is defined in the CSI. Use the following sample job to define the SMPTLOAD DDDEF. Change all occurrences of the following lowercase variables to values suitable to your installation before submitting.

```
#globalcsi - The dsname of your global CSI.
#tzone - The name of the SMP/E target zone.
#dzone - The name of the SMP/E distribution zone.
//SMPTLOAD JOB 'ACCOUNT INFORMATION','SMPTLOAD',
// CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//
// D e f i n e D D D E F E n t r i e s
//
//SMPTLOAD EXEC PGM=GIMSMP,REGION=496K
//SMPCSI DD DISP=OLD,DSN=#globalcsi
//SMPCNTL DD
SET BDY(GLOBAL) .
UCLIN .
ADD DDDEF(SMPTLOAD) CYL SPACE(2,1) DIR(1)
UNIT(SYSALLDA) .
ENDUCL .
SET BDY(#tzone) .
UCLIN .
ADD DDDEF(SMPTLOAD) CYL SPACE(2,1) DIR(1)
UNIT(SYSALLDA) .
ENDUCL .
SET BDY(#dzone) .
UCLIN .
ADD DDDEF(SMPTLOAD) CYL SPACE(2,1) DIR(1)
UNIT(SYSALLDA) .
ENDUCL .
/*
```

#### 4. Authorize the monitoring programs.

##### a. Authorize the product started tasks:

- Update RACF® or equivalent security system for the user ID (with OMVS segment) you will use for the started task of OMEGAMON AI for JVM (the default started task is IBMJJ).
- Identify the user ID you created as a Superuser:

```
ALU <user ID> OMVS(UID(0) HOME(/) PROGRAM(/bin/sh))
```

- Use the RDEFINE commands to associate the ID with the started task IBMJJ and IBMJT (the started tasks of the OMEGAMON AI for JVM agent and collector):

```
*/associate the user ID with started tasks
RDEFINE STARTED IBMJJ.* STDATA(USER(userID) GROUP(SYS1))
RDEFINE STARTED IBMJT.* STDATA(USER(userID) GROUP(SYS1))
```

- After you issue all the RDEFINE commands, issue the refresh command:

```
SETROPTS RACLIST(STARTED) REFRESH
```

## Specify the runtime environment

To specify the runtime environment (RTE) you want to configure, specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same global properties is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select option 3 and press Enter to enter PARMGEN.
3. Provide the requested values to locate the RTE where you want to add the OMEGAMON AI for JVM agent.

#### **GBL\_USER\_JCL**

Specify the data set name of the PARMGEN global user JCL library for the existing RTE. For example: TDITN.IDTST.PARMGEN.JCL.

#### **RTE\_PLIB\_HILEV**

Specify the non-VSAM high-level qualifier of the existing RTE for the PARMGEN work libraries. For example: TDITN.IDTST.

#### **RTE\_NAME**

Specify the name for the existing RTE you created before, for example: SYSA.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL_____
                (for example, TDITNT.DEV.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: TDITN.IDTST_____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      SYSA_____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.
Press F1=Help for more information. Type U or UTIL to access utility menu.

```

4. Press Enter.  
The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>
```

Quick Configuration Mode

```
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA
```

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Extend the work environment

Accept the settings of the existing RTE, and select the OMEGAMON AI for JVM agent in the KCIP@PGI panel. Then you submit the KCIJPCFG job to update the libraries and the configuration profiles for the RTE.

## Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu. The first **Set up PARMGEN work environment for an RTE** panel is displayed.
2. Accept the existing settings in the KCIPQPG1, KCIP@PG2, and KCIP@PG3 panels, and press Enter till you reach the KCIP@PGI panel. The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE
```

```
Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected
```

```
When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)
```

```
 Kpp Component or Product Name and Version
-----
_ KAH System Automation Monitoring Agent V350
_ KC5 OMEGAMON AI for CICS V610
_ KD0 Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
_ KD4 ITCAM for SOA Agent V711
_ KD5 OMEGAMON AI for Db2 V610
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS on z/OS V550
_ KJJ OMEGAMON AI for JVM V610
_ KMC OMEGAMON for Messaging - WebSphere MQ Configuration V730
_ KMQ OMEGAMON for Messaging - MQ V750
_ KM5 OMEGAMON AI for z/OS V610
_ KNA NetView for z/OS Agent V621
_ KN3 OMEGAMON AI for Networks V610
/ KOB OMEGAMON Enhanced 3270 User Interface V750
_ KQI OMEGAMON for Messaging - Integration Bus V750
_ KRG Advanced Audit for DFSMSHsm Agent V260
_ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
_ KRJ Advanced Allocation Management Agent V330
_ KRK Automated Tape Allocation Manager for z/OS Agent V330
_ KRN Advanced Catalog Management Agent V260
_ KRV Advanced Backup and Recovery for z/OS Agent V240
_ KRW Tape Optimizer for z/OS Agent V220
_ KS3 OMEGAMON AI for Storage V610
_ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

If you have other products in the ServerPac that you installed, they will be shown in the list as well.

3. Select the line **KJJ OMEGAMON AI for JVM V6.1.0**.
4. Change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
5. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow - Primary Option Menu.  
The KCIJPCFG jobs submits a second job, KCIJPPRF. Wait for both jobs to complete successfully before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The OMEGAMON AI for JVM parameters are added in the configuration profile. Set necessary parameters to proper values.

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles).  
The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles and post configuration instructions.  
Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#) and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to review and edit the RTE profile.  
Configure the following parameters and accept default values for other parameters:

- **KJJ\_TEMS\_TCP\_HOST** for the network address (IP hostname or IP address) of the Remote TEMS that the Agent will report to. Normally this parameter is auto-discovered. Review its value and make sure it is correct.
  - **RTE\_USS\_RTEDIR** for the z/OS UNIX System Services™ directory is used for the OMEGAMON AI for JVM.
4. Select 2 to edit the \$GBL\$USR global profile.  
Specify values to the following parameters:
    - **GBL\_DSN\_CSF\_SCSFMOD0** for load library. Normally this parameter is auto-discovered by the DLA job. Review this parameter to make sure the value is correct.
    - **GBL\_USS\_TKANJAR\_PATH** for the TKANJAR DDDEF file system path
  5. Select 4 to review the following imbeds to make sure there are JVM subsystems or types running that can be monitored by the OMEGAMON AI for JVM agent. Otherwise, there will be no data displayed on the interface.
    - KJJ\$SDL1
    - KJJ\$SDL2
    - KJJ\$SDL3
    - KJJ\$SDL4
    - KJJ\$SDL5

## Creating the RTE members and jobs

To update the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.

## Completing the setup of the runtime environment

The final step in setting up the runtime environment (RTE) using the configuration software is submitting the batch jobs that were created in the preceding step. These jobs allocate the necessary data sets.

### Procedure

- From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPG  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE    Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
More: +
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** OR **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job.

#### TUTORIAL INFORMATION

Before you submit the **Composite SUBMIT job**, review and edit it as necessary. For example, OMEGAMON AI for JVM uses z/OS® UNIX® System Services and the user that submits the job must have SUPERUSER and READ access to BPX.FILEATTR.\* profiles (BPX.FILEATTR.APF, BPX.FILEATTR.PROGCTL) in the FACILITY class. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

**Note:** After you submit the required jobs or the composite job, you still need to copy the product started tasks and the VTAM major node members to the system libraries. You can copy the product started tasks and VTAM major node members by running either your own jobs or the PARMGEN KCIJPSYS job. You can review the KCIJPSYS job overview to get a list of items that you must copy.

- If the jobs complete with any errors, review the \$IVPRPT verification report in the WCONFIG library. Correct any errors and rerun any jobs that did not complete successfully. Rerun the KCIJPIVP verification job until all errors have been eliminated.

## What to do next

**Note:** Make sure the following started task run in a proper service class in Work Load Manager:

- The started task of the OMEGAMON AI for JVM agent and collector: **IBMJJ** and **IBMJT**. Make sure the service class of the started tasks are equal to or higher than that of the object they are monitoring.

Then complete any configuration required outside of the configuration software.

## Completing the configuration for the OMEGAMON AI for JVM agent

After you configure OMEGAMON AI for JVM using Configuration Manager or PARMGEN, you must complete several post-configuration steps. The post-configuration steps that you must complete are a combination of required steps and optional steps that depend on your particular configuration and monitoring objectives.

<i>Table 14: Post-configuration steps</i>	
Step	Context
<a href="#">Configuring a JVM for monitoring with the OMEGAMON for JVM Agents</a>	Required for all configurations
<a href="#">Configuring JVMs in CICS</a>	Required to monitor a Java™ virtual machine (JVM) that runs in a CICS® subsystem
<a href="#">Configuring JVMs in a CICS Transaction Gateway subsystem</a>	Required to monitor a Java™ virtual machine (JVM) that runs in a CICS® Transaction Gateway subsystem
<a href="#">Configuring JVMs in an IBM Db2 stored procedure</a>	Required to monitor a JVM that runs in an IBM Db2® stored procedure
<a href="#">Configuring JVMs in IBM Operational Decision Manager</a>	Required to monitor a JVM that runs in IBM Operational Decision Manager (IBM ODM)
<a href="#">Configuring JVMs in an IMS batch or message processing region</a>	Required to monitor a Java™ virtual machine (JVM) that runs in an IMS™ Java Batch Processing (JBP) region or Java Message Processing (JMP)
<a href="#">Configuring JVMs in WebSphere Application Server</a>	Required to monitor a JVM that runs in WebSphere® Application Server
<a href="#">Configuring JVMs in WebSphere Liberty</a>	Required to monitor a Java virtual machine (JVM) that runs in WebSphere Liberty
<a href="#">Configuring JVMs in z/OSMF</a>	Required to monitor a Java™ virtual machine (JVM) that runs in z/OSMF
<a href="#">Configuring z/OS Connect for API monitoring</a>	Required for all configurations
<a href="#">Configuring JVMs that use the JZOS Batch Launcher</a>	Required to monitor a Java™ virtual machine (JVM) that uses the JZOS Batch Launcher
<a href="#">Specifying a non-default collector ID</a>	Required when you don't use the default <code>KJJ_COLLECTOR_ID=KJJ1</code> collector ID
<a href="#">Refreshing jar files after SMP/E maintenance</a>	Required for all configurations
<a href="#">Enabling IBMJT JTCOLL collector trace options</a>	Required to enable debugging in the IBMJT JTCOLL collector started task
<a href="#">Publishing OMEGAMON AI for JVM data to analytic platforms for AI Ops (including OMEGAMON Data Provider)</a>	Required to publish data to OMEGAMON Data Provider

## Starting the monitoring system

All monitoring components are installed and configured. You can start the monitoring system and monitor the application status either on Linux via TEP or on z/OS via enhanced 3270UI.

### About this task

**Note:** To guarantee the monitoring components work properly, start the Hub TEMS, TEPS, and TEP on the Linux server first, and then start the started tasks of the Remote TEMS, enhanced 3270UI, and OMEGAMON AI for JVM agent on z/OS.

### Procedure

1. Start the TEMS, TEP, and TEPS on the Linux server.
  - a. On the Linux server, browse to the directory where you installed the IBM Tivoli Monitoring: `ITMinstall_dir/bin`.
  - b. Start the monitoring server.  
Run the following command to start the monitoring server:

```
./itmcmd server start tems_name
```

- c. Start the portal server.  
Run the following command to start the portal server:

```
./itmcmd agent start cq
```

- d. Start the portal client.  
Run the following command to start the portal client:

```
./itmcmd agent start cj
```

2. On z/OS, start the started tasks of the Remote TEMS, enhanced 3270UI, and OMEGAMON AI for JVM agent by running the following commands.

```
S IBMDS  
S IBMTOM  
S IBMJJ
```

In the RKLVLLOG for the monitoring server address space, look for the following messages to indicate successful startup:

```
KDSMA001 Tivoli Enterprise Monitoring Server (TEMS) data collection server started.  
K04SRV032 Tivoli Enterprise Monitoring Server (TEMS) startup complete.
```

Look also for the following messages to indicate successful establishment of a communications path by the local location broker:

```
KDSNC007 Local Location Broker is active  
KDSNC004 Bind of local location broker complete= protocol_name:address
```

Also look for the messages that indicate successful connection between the OMEGAMONAI for JVM agent and the local Remote TEMS.

From the Remote TEMS started task IBMDS:

```
Remote node <KJJ:SYSA:JVM> is ON-LINE
```

From the OMEGAMON AI for JVM agent started task IBMJJ:

```
Starting Enterprise situation HEARTBEAT  
No action is required., Producer (IRA Constructor)
```

```
Timer for owner KPX.RNODESTS started.  
Connecting to CMS SYSA:CMS
```

## Result

The monitoring system is started.

## What to do next

You can access the monitoring system through TEP or enhanced 3270UI:

- To log in to the TEP client, you can use the default user ID **sysadmin**. No password is required to log on to the portal client unless the hub monitoring server was configured to enable **Security: Validate User**.
- To log in to the enhanced 3270UI, start a new VTAM 3270 session and run the following command at the VTAM logon panel.

```
LOGON APPLID(applid)
```

where *applid* is the VTAM Applid of the enhanced 3270UI address space. Then enter your user ID and password and press Enter.

---

# Planning

Effective preparation and planning make deployment and upgrades go more quickly and smoothly. To prepare for deployment, review the preinstallation requirements and familiarize yourself with the product components and architecture. Then, review the planning decisions that are covered in the deployment section. To prepare for upgrade, review the requirements and other information in the upgrade section.

To plan deployment of distributed components of Tivoli Management Services, see the topics in the *IBM Tivoli Monitoring Installation and Setup Guide*. For planning information specific to a particular OMEGAMON product, see the planning topics for that product.

---

## Planning a first deployment

If you are planning a first-time deployment, review the pre-installation requirements and familiarize yourself with the product components and architecture. Then, make the planning decisions that are covered in this section.

For information on installing, configuring, and upgrading the distributed components of Tivoli Management Services, see the *IBM Tivoli Monitoring: Installation and Setup Guide*. For product-specific planning, installation, configuration, and upgrade information, see the documentation and technotes for each product.

### Decision 1: Why to install into a shared CSI

To manage a suite of monitoring agent products with a monitoring server on z/OS® systems, install the products into a shared consolidated software inventory (CSI) whenever possible.

A shared CSI has two main advantages:

- A shared CSI eliminates duplication and can reduce space requirements by as much as 75%. The monitoring agents share components that must be duplicated if different target and distribution zones are used.
- In a shared CSI, SMP/E can automatically manage IFREQ situations across product components. Otherwise, the IFREQ situations must be managed by running SMP/E cross-zone reports. For information about cross-zone reports, see the *IBM® SMP/E for z/OS®* documentation.

**Note:** While most of the monitoring agents on a z/OS® system can coexist in a shared CSI, IBM® cannot guarantee that these products can coexist with products from other vendors.

If you install a product or component into an existing CSI that contains a previous version of the same product or component, SMP/E deletes the previous version during the installation process. To maintain more than one version of products or components, you must install them into a separate CSI from the CSI that contains the previous version.

If you decide to install into a shared CSI, follow these guidelines:

- Specify the same high-level qualifier for the target and distribution libraries.
- Make sure you have enough DASD. If you are installing into an existing shared CSI, pay particular attention to the DKAN\* and TKAN\* common libraries. The DKAN\* and TKAN\* libraries were originally allocated with secondary space allocation, to allow them to expand when you install additional products or apply maintenance. However, if these libraries have already gone into multiple extents, you might not have sufficient extents available for any necessary expansion. In that case, you might receive error messages during installation.
- During normal SMP/E processing, VSAM control interval and control area splits can occur. The resulting fragmentation can degrade SMP/E performance and space utilization. To reorganize the CSI, use your site's approved utility and method for managing VSAM files.

If you are not installing into a shared CSI, you must use a different high-level qualifier for the target and distribution libraries.

## Decision 2: What types of runtime environments to set up

A *runtime environment* is a logical grouping of runtime libraries that are referenced by started tasks running on a z/OS® image. When you configure monitoring servers and monitoring agents, you begin by defining a runtime environment of a certain type, which determines the number and types of runtime libraries required. System proximity, available storage space, and product maintenance strategy are all factors used to determine the type of runtime environment you require for a set of products.

“Types of libraries” on page 123 summarizes the types of libraries created during installation and configuration of monitoring servers and monitoring agents on z/OS® systems.

Lists names and descriptions of types of runtime libraries

Type of library	Description
Runtime libraries	General term for libraries referenced by started task procedures.
Target libraries Abbreviated <i>thilev</i> .	SMP/E-maintained target libraries.
Base libraries Abbreviated <i>rhilev</i> or <i>rhilev.rte</i> .	Read-only runtime libraries that the configuration process does not alter and that are shareable between systems. These libraries physically exist in a full or base runtime environment, or as SMP/E target libraries (if a runtime environment shares with SMP/E). The base libraries can contain the actual data sets maintained by SMP/E, or a copy of them. Use a clone or copy of the SMP/E installation libraries for a production environment.
LPAR-specific libraries Abbreviated <i>rhilev.rte</i> .	Runtime libraries that are built during configuration to run on a specific logical partition (LPAR). These libraries contain the unique elements required for a particular LPAR and cannot be shared among z/OS® images.

The distinction among library types helps you to optimize your product environment. For example, by allocating common base libraries to a single runtime environment that can be shared by other runtime environments, you can substantially reduce the amount of disk space required and simplify the application of maintenance across z/OS® images.

The OMEGAMON® products support three types of runtime environments: base, full, and sharing. A sharing environment may share libraries with a base runtime environment, a full runtime environment, or an SMP/E runtime environment. “Types of runtime environments” on page 123 explains the types of runtime environments that you can create during product configuration.

Short descriptions of runtime environment types

Type of runtime environment	Description
Full (self-contained) runtime environment	Runtime environment containing a full set of dedicated libraries, consisting of both LPAR-specific libraries and a copy of the SMP/E installation read-only base libraries eligible for sharing with other runtime environments. See “Example 1. Full (self-contained) runtime environment” on page 125.
Sharing-with-base runtime environment	Runtime environment containing LPAR-specific libraries and referencing the base libraries configured in a base runtime environment. See “Example 2. Sharing-with-base runtime environment” on page 127.
Sharing-with-full runtime environment	Runtime environment containing LPAR-specific libraries and referencing the base libraries configured in a full runtime environment. See “Example 3. Sharing-with-full runtime environment” on page 128.

Type of runtime environment	Description
Sharing-with-SMP/E runtime environment	Runtime environment containing LPAR-specific libraries and referencing the libraries managed by SMP/E. See <a href="#">“Example 4. Sharing-with-SMP/E runtime environment” on page 130.</a>

In deciding which type of runtime environment you want to configure, take into account the following considerations:

- **Number of LPARs**  
A best practice is to have a single runtime environment per LPAR. Based on the workload being monitored in an LPAR, it might make sense to have different runtime environment "templates" based on the commonality of monitoring in the LPARs. For example, if there are LPARs that primarily run transaction workloads (CICS®, WebSphere®), and LPARs that primary run databases (for example, Db2® or IMS™), then two runtime environment templates might be defined, one for monitoring the transaction subsystems, one for monitoring the database subsystems.
- **Shared DASD**  
If shared DASD is in place, runtime environments can be defined and maintained on a single LPAR without having to move the updated data sets to the target system. Without shared DASD, you will either have to maintain separate installation environments on the systems not sharing DASD, or use one system for the installation environment to create and maintain runtime environments, and then have a process to move new or updated runtime environments to the target system.
- **SMP/E CSI environments**  
A single SMP/E CSI (consolidated software inventory) environment for the products is simpler to manage, but is also less flexible when moving to different product levels. Multiple CSI environments provide more flexibility, but require more effort to maintain. Since a runtime environment is associated with a set of SMP/E target libraries, multiple CSIs may mean either more runtime environments, or the need to manage the association of runtime environments with an SMP/E CSI environment (for example, by a physical system or a set of LPARs). For more information, see [“Decision 1: Why to install into a shared CSI” on page 122.](#)
- **Maintenance**  
SMP/E maintenance is added to the product target libraries. When a runtime environment is sharing with the SMP/E target libraries, the runtime environment is updated when the SMP/E maintenance is applied. Base and full runtime environments are updated only after they are loaded after the SMP/E maintenance. This configuration provides additional flexibility, as the SMP/E maintenance can be applied and tested before updating the base or full runtime environments (and any sharing runtime environments that share with the base or full runtime environment).

**Tips:**

See the following suggested strategies for deciding the type of runtime environment to configure based on your requirements:

- If you plan to install monitoring agents on many z/OS® images, you can get good results with a sharing-with-base or sharing-with-SMP/E type of runtime environment. See the following examples for considerations when using any type of sharing environment.
- If you want to test quickly, use a sharing-with-SMP/E type of runtime environment runtime environment .
- If you want to test your configuration on an isolated test system, use a full, self-contained type of runtime environment.

## Naming convention for runtime environment data sets

Before you begin configuring runtime environments, you should understand the convention for naming the data sets in the runtime libraries.

Each data set in a runtime library has a name composed of the following parts:

Table 17: Runtime environment data set naming convention	
Part of the name	Length
High-level qualifier, VSAM or non-VSAM	26 bytes
Mid-level qualifier, which identifies the runtime environment	8 bytes
Low-level qualifier, which identifies the data set and usually matches the DDNAME	8 bytes

You set the high-level qualifiers for VSAM and non-VSAM data sets and the mid-level qualifier when you create a runtime environment. The low-level qualifier for each data set is provided by the configuration software and has the format

```
cKppffff
```

where

- *c* is the data set class:  
D for installation distribution libraries (DLIBs).  
T for target libraries (TLIBs) that were installed by SMP/E.  
R for runtime libraries.
- *pp* is the 2-character code for the product or component.
- *ffff* identifies the function of the data set; U as the final character identifies the data set as a user library. (Examples: CMD or CMDU for a commands data set, PAR or PARU for a parameters data set, and SAM or SAMU for a samples data set.)

For example, the data set IBM.RHILEV1.RTENAME1.RKANPARU has the high-level qualifier IBM.RHILEV1, the mid-level qualifier RTENAME1, and the low-level qualifier RKANPARU (which identifies the data set as a user library containing parameters for the component AN, the conglomerate component for the entire combination of products and components in the runtime environment).

## Naming convention for runtime environment jobs

When you configure a runtime environment, you edit and submit several jobs.

The naming convention for these jobs is

```
KCIJcsss
```

where *c* = V if support for variables is enabled for the RTE or *c* = P if variable support is disabled and *sss* is the job name. For example, the KCIJVALO job allocates the runtime libraries with system variables, and the KCIJPALO job allocates the runtime libraries without system variables.

## Example configurations using different types of runtime environments

The following five examples show different types of runtime environment (RTE) configurations. The way you choose to set up your RTEs depends on your site requirements and maintenance procedures.

**Tip:** The data set name (DSN) is composed of the high-level qualifier (*rhilev*), followed by the mid-level qualifier (*rte*), followed by the low-level qualifier. The field settings and library names shown are for illustrative purposes only.

### Example 1. Full (self-contained) runtime environment

The full runtime environment contains all libraries required by a particular IBM® product and is the easiest runtime environment to create.

This type of runtime environment can be defined in any situation but is most suitable if at least one of the following statements is true:

- Your installation comprises only a single z/OS® image.

- You want each z/OS® image to be independent.
- You are creating a runtime environment for a specific combination of products that does not exist in any other runtime environment.

The following example represents a full runtime environment called RTE1 that is completely self-contained. All base libraries and LPAR-specific libraries are allocated in RTE1. The base libraries in a full runtime environment are a copy of the SMP/E installation libraries.

```
Name: RTE1
Type: Full
Hilev: PROD.CAN
Midlev: RTE1
Shares with: (none)
```

LPAR-specific library DD DSNNAME resolution with concatenated base, read-only libraries:

```
//RKANPAR DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANPARU
// DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANPAR

//RKANCMD DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANCMDU
// DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANCMD
//STEPLIB DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANMODU
// DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANMOD
// DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANMODL
// DD DISP=SHR,
// DSN=PROD.CAN.RTE1.RKANMODP
```

In typical product started tasks, the LPAR-specific libraries are concatenated ahead of RTE1 standalone, read-only base libraries (copies of the SMP/E target libraries), as shown below:

```
//&PROCNAME PROC
// SYS=RTE1,
// RHILEV=PROD.CAN,
// BASEHLEV=PROC.CAN.RTE1.R . .
//STEPLIB DD DISP=SHR,
// DSN=&RHILEV..&SYS..RKANMODU
// DD DISP=SHR,
// DSN=&BASEHLEV.KANMODL
// DD DISP=SHR,
// DSN=&BASEHLEV.KANMOD
// DD DISP=SHR,
// DSN=&BASEHLEV.KANMODP
//RKANMODL DD DISP=SHR,
// DSN=&RHILEV..&SYS..RKANMODU
// DD DISP=SHR,
// DSN=&BASEHLEV.KANMODL
```

“Figure: Full runtime environment on a single system” on page 126 illustrates a full runtime environment.

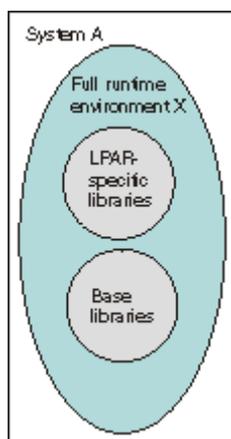


Figure 5: Full runtime environment on a single system

“Figure: Full runtime environments on several systems” on page 127 shows the way a full runtime environment can be expanded to more than one z/OS® image. Each runtime environment is self-contained; the three runtime environments X, Y, and Z on systems A, B, and C do not share any libraries.

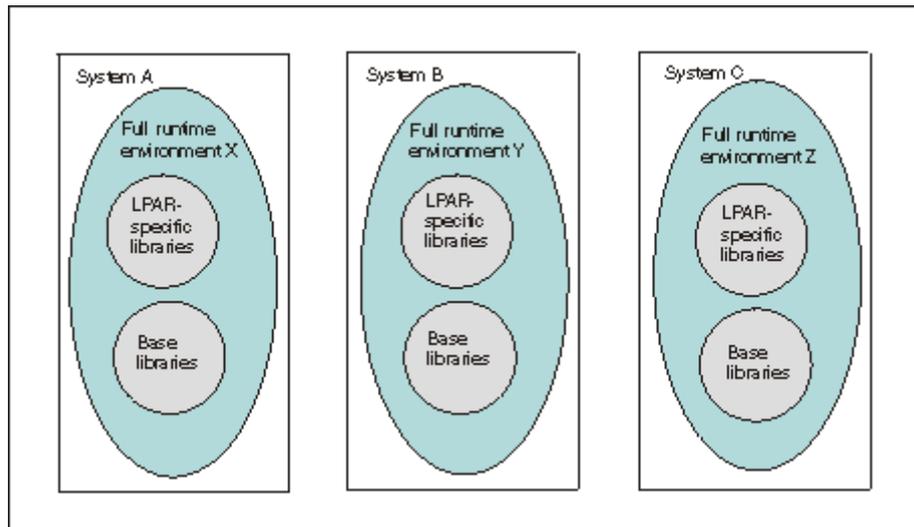


Figure 6: Full runtime environments on several systems

## Example 2. Sharing-with-base runtime environment

The sharing-with-base configuration is a good choice for environments where storage devices are shared. Using the base runtime environment for common data sets, the sharing-with-base runtime environment contains only LPAR-specific libraries. The base runtime environment cannot contain the LPAR-specific libraries required to run the installed products. The sharing-with-base runtime environment must contain the same set or a subset of the products and components in the base runtime environment.

The configuration software resolves product configuration elements to point at the LPAR-specific libraries and the base runtime environment libraries as necessary.

The following example represents a sharing-with-base runtime environment called SHARRTE2, which obtains its base library information from the base runtime environment (RTE2).

```
Name:      SHARRTE2
Type:      Sharing
Hilev:     E.F.G
Midlev:    SHARRTE2
Shares with: Base RTE called "BASELIB". Its read-only base libraries
              (copies of the SMP/E target libraries) are shared by 2
              LPAR RTEs (SHARRTE1 and SHARRTE2). Cited example here is
              for SHARRTE2.

              Read-only Base HLQ (BASELEV PROC symbol) =
              RTE_X_HILEV_SHARING parm. (Value: COMMON) + RTE_SHARE parm.
              (Value: BASELIB)
```

LPAR-specific library DD DSNNAME resolution with concatenated base, read-only libraries:

```
//RKANPAR DD DISP=SHR,
//        DSN=E.F.G.SHARRTE2.RKANPARU
//        DD DISP=SHR,
//        DSN=COMMON.BASELIB.RKANPAR
//RKANCMD DD DISP=SHR,
//        DSN=E.F.G.SHARRTE2.RKANCMDU
//        DD DISP=SHR,
//        DSN=COMMON.BASELIB.RKANCMD
//STEPLIB DD DISP=SHR,
//        DSN=E.F.G.SHARRTE2.RKANMODU
//        DD DISP=SHR,
//        DSN=COMMON.BASELIB.RKANMODL
//        DD DISP=SHR,
//        DSN=COMMON.BASELIB.RKANMOD
//        DD DISP=SHR,
//        DSN=COMMON.BASELIB.RKANMODP
```

In typical product started tasks, the LPAR-specific libraries are concatenated ahead of the base libraries, as shown below:

```

//&PROCNAME  PROC
//           SYS=SHARTE2,
//           RHILEV=X.Y.Z,
//           BASEHLEV=COMMON.BASELIB.R
.
.
//STEPLIB   DD DISP=SHR,
//           DSN=&RHILEV..&SYS..RKANMODU
//           DD DISP=SHR,
//           DSN=&BASEHLEV.KANMODL
//           DD DISP=SHR,
//           DSN=&BASEHLEV.KANMOD
//RKANMODL  DD DISP=SHR,
//           DSN=&RHILEV..&SYS..RKANMODU
//           DD DISP=SHR,
//           DSN=&BASEHLEV.KANMODL

```

“Figure: Sharing-with-base runtime environment” on page 128 illustrates a sharing-with-base runtime environment.

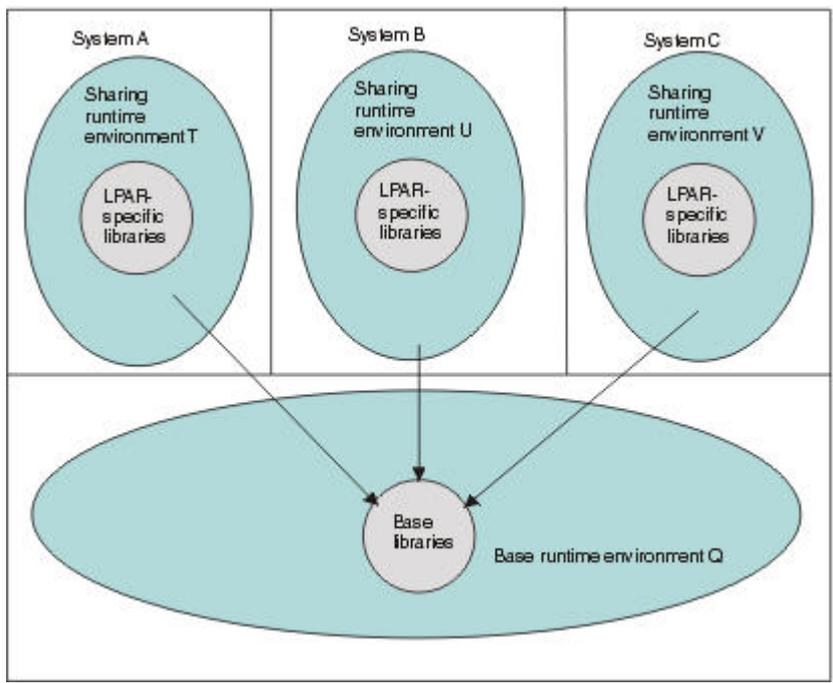


Figure 7: Sharing-with-base runtime environment

### Example 3. Sharing-with-full runtime environment

The sharing-with-full runtime environment allocates LPAR-specific libraries only, and in this example, obtains its base library information from a full runtime environment. The sharing-with-base runtime environment must contain the same set or a subset of the products and components in the base runtime environment.

This configuration can also be used for environments where storage devices are shared, although the sharing-with-base configuration is the preferred approach.

The following example represents a sharing-with-full runtime environment called SHARTE1, which obtains its base library information from the full runtime environment (RTE1).

```

Name:      SHARTE1
Type:     Sharing
Hilev:    E.F.G
Midlev:   SHARTE1
Shares with: Full RTE called "RTE1" in Example 1. Its read-only base libraries
              (copies of RTE1 base libraries) are shared by 2 LPAR RTEs (SHARTE1
              and SHARTE3). Cited example here is for SHARTE1.

              Read-only Base HLQ (BASELEV PROC symbol) = RTE_X_HILEV_SHARING parm.

```

(Value: PROD.CAN) + RTE\_SHARE parm. (Value: RTE1)

LPAR-specific library DD DSNAME resolution with concatenated base, read-only libraries:

```
//RKANPAR DD DISP=SHR,  
//        DSN=E.F.G.SHARRTE1.RKANPARU  
//        DD DISP=SHR,  
//        DSN=PROD.CAN.RTE1.RKANPAR  
//RKANCMD DD DISP=SHR,  
//        DSN=E.F.G.SHARRTE1.RKANCMDU  
//        DD DISP=SHR,  
//        DSN=PROD.CAN.RTE1.RKANCMD  
//STEPLIB DD DISP=SHR,  
//        DSN=E.F.G.SHARRTE1.RKANMODU  
//        DD DISP=SHR,  
//        DSN=PROD.CAN.RTE1.RKANMOD  
//        DD DISP=SHR,  
//        DSN=PROD.CAN.RTE1.RKANMODL  
//        DD DISP=SHR,  
//        DSN=PROD.CAN.RTE1.RKANMODP
```

In typical product started tasks, the LPAR-specific libraries are concatenated ahead of the base libraries (RTE1 read-only base libraries), as shown below:

```
//&PROCNAME PROC  
//        SYS=SHARRTE1,  
//        RHILEV=E.F.G,  
//        BASELEV=PROC.CAN.RTE1.R  
.  
//STEPLIB DD DISP=SHR,  
//        DSN=&RHILEV..&SYS..RKANMODU  
//        DD DISP=SHR,  
//        DSN=&BASELEV.KANMODL  
//        DD DISP=SHR,  
//        DSN=&BASELEV.KANMOD  
//        DD DISP=SHR,  
//        DSN=&BASELEV.KANMODP  
//RKANMODL DD DISP=SHR,  
//        DSN=&RHILEV..&SYS..RKANMODU  
//        DD DISP=SHR,  
//        DSN=&BASELEV.KANMODL
```

“[Figure: Sharing-with-full runtime environment](#)” on page 129 illustrates a sharing-with-full runtime environment.

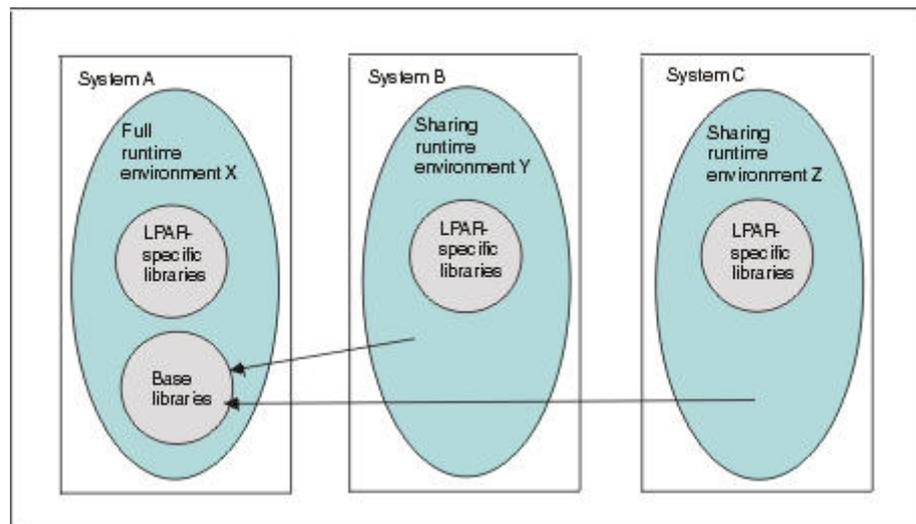


Figure 8: Sharing-with-full runtime environment

## Example 4. Sharing-with-SMP/E runtime environment

The sharing-with-SMP/E runtime environment allocates LPAR-specific libraries only and obtains its base library information from target libraries managed by SMP/E.

Use the sharing-with-SMP/E configuration if at least one of the following statements is true:

- Space is limited on storage devices. This configuration method does not allocate base libraries in the runtime environment, thereby reducing storage requirements.
- You want to activate SMP/E-applied product maintenance immediately.

The following example represents a sharing-with-SMP/E runtime environment called SHARSMP, which obtains its base library information from SMP/E target libraries.

```
Name:      SHARSMP
Type:      Sharing
Hilev:     E.F.G
Midlev:    SHARSMP
Shares with: SMP/E target libraries using target hilev
            (gbl_target_hilev) INSTALL.SMPE
```

LPAR-specific library DD DSNNAME resolution with concatenated base, read-only libraries:

```
//RKANPAR DD DISP=SHR,
//        DSN=E.F.G.SHARSMP.RKANPARU
//        DD DISP=SHR,
//        DSN=INSTALL.SMPE.TKANPAR
//RKANCMD DD DISP=SHR,
//        DSN=E.F.G.SHARSMP.RKANCMDU
//        DD DISP=SHR,
//        DSN=INSTALL.SMPE.TKANCMD
//STEPLIB DD DISP=SHR,
//        DSN=E.F.G.SHARSMP.RKANMODU
//        DD DISP=SHR,
//        DSN=INSTALL.SMPE.TKANMOD
//        DD DISP=SHR,
//        DSN=INSTALL.SMPE.TKANMODL
//        DD DISP=SHR,
//        DSN=INSTALL.SMPE.TKANMODP
```

In typical product started tasks, the LPAR-specific libraries are concatenated ahead of the base libraries (the SMP/E target libraries), as shown below:

```
//&PROCNAME PROC
//          SYS=SHARSMP,
//          RHILEV=X.Y.Z,
//          BASEHLEV=INSTALL.SMPE.T
.
.
//STEPLIB DD DISP=SHR,
//        DSN=&RHILEV..&SYS..RKANMODU
//        DD DISP=SHR,
//        DSN=&BASEHLEV.KANMODL
//        DD DISP=SHR,
//        DSN=&BASEHLEV.KANMOD
//        DD DISP=SHR,
//        DSN=&BASEHLEV.KANMODP
//RKANMODL DD DISP=SHR,
//        DSN=&RHILEV..&SYS..RKANMODU
//        DD DISP=SHR,
//        DSN=&BASEHLEV.KANMODL
```

“Figure: Sharing-with-SMP/E runtime environment” on page 131 illustrates a sharing-with-SMP/E runtime environment.

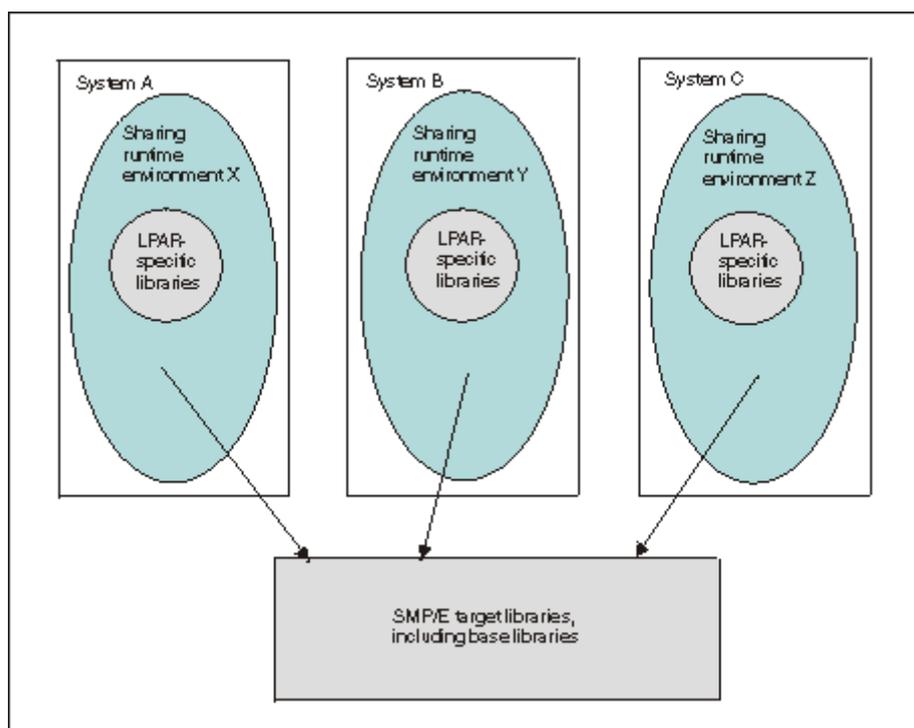


Figure 9: Sharing-with-SMP/E runtime environment

## Decision 3: Where to install your monitoring servers

The Tivoli® Enterprise Monitoring Server (also called the *monitoring server*) is the central component of the commonly-shared Tivoli® Management Services infrastructure. The monitoring server consolidates and distributes data; receives and distributes commands; and sends alerts when specified availability and performance problems are detected in the monitored applications, systems, or networks. You must install and configure at least one monitoring server, called the hub, to support the monitoring products. You may install one or more additional *remote* monitoring servers.

The *hub monitoring server* is the central monitoring server, acting as the focal point for data collection and distribution. It communicates with monitoring agents, with remote monitoring servers, with the Tivoli Enterprise Portal Server, and with the Warehouse Proxy and Summarization and Pruning agents. The load on the hub is typically high.

Remote monitoring servers communicate only with the monitoring agents that report to them and with the hub monitoring servers to which they report. Note that a remote monitoring server is remote with respect to the hub monitoring servers, not necessarily with respect to the monitoring agents. If monitoring agents are installed on the same system as a remote monitoring server, that monitoring server is local to the monitoring agents but remote to the hub.

The load on remote monitoring servers is typically low. Load is driven higher if historical data collection is performed on the monitoring servers instead of on the monitoring agents.

You can install monitoring servers on z/OS®, Windows™, and some UNIX™ and Linux™ systems. See [IBM Tivoli Monitoring: Installation and Setup Guide](#) for a complete list of supported platforms.

### Location of hub monitoring server

On System z®, the hub can be located on either z/OS® or z/Linux. The hub may also be installed on a distributed operating system such as Windows™, UNIX™, or Linux™. A number of factors must be taken into consideration when deciding where to locate the hub monitoring server.

Many organizations prefer the reliability and availability characteristics of the z/OS® platform for the hub monitoring server. If most of your monitoring agents are on a z/OS® system, placing the hub monitoring server on a z/OS® system can shorten the communications path.

Alternatively, if most of your monitoring agents are on distributed systems, you might prefer a distributed platform for your hub monitoring server. If you install the hub monitoring server on a distributed system, such as a Windows™, Linux™, or AIX® system, you have the option of deploying the portal server on the same system

to shorten that communications path. If your hub is not running on a z/OS® system, it may make sense to have a remote monitoring server on your z/OS® LPARs.

The following additional factors should also be taken into consideration in deciding where to locate the hub:

- Security requirements
- Available or required CPU cycles
- Data conversion considerations
- Network topology
- Failover capabilities and requirements

The hub monitoring server is the focal point for the entire monitoring environment. This server is under a significant load.

Place the hub monitoring server inside the data center on a high-performance network. Connectivity between the hub monitoring server and other directly connected components such as the remote monitoring servers must be fast and reliable.

### **Security requirements**

When you are selecting the platform where the hub monitoring server will be deployed, you should consider what your security requirements are.

Access to the Tivoli® Enterprise Portal is controlled by user accounts (IDs) defined to the portal server. Authentication of those IDs can be enabled through either the hub Tivoli® Enterprise Monitoring Server or the Tivoli® Enterprise Portal Server. The hub Tivoli® Enterprise Monitoring Server can be configured to authenticate user IDs by using either the local system registry or an external LDAP-enabled registry. The Tivoli® Enterprise Portal Server can be configured to authenticate through an external LDAP registry. You can provide security for the enhanced 3270 user interface, the 3270 OMEGAMON® (menu system) and OMEGAMON® II® (CUA) interfaces by using a combination of security types and implementations.

For more information on security options, see [Which security options to enable](#). Do not implement user authentication before you complete a basic installation of Tivoli® Management Services components and monitoring agents and test their operation.

### **Available or required CPU cycles**

Place the hub monitoring server on a supported platform that has the required resources available (memory, processor, storage) and where it will not be constrained. In some cases, local organizational standards or requirements might dictate where processing resources for the hub monitoring server must be allocated.

### **Data conversion considerations**

When data is passed between mainframe and distributed platforms, the data must be converted from ASCII (distributed) to EBCDIC (mainframe), or vice versa, for each request. Data conversion is always completed by the receiving component in a Tivoli® Monitoring environment. Because the Tivoli® Enterprise Portal Server can be located only on ASCII-based systems, for environments that contain z/OS® monitored systems, data translation cannot be completely avoided. However, minimizing the amount of data conversion can significantly improve the performance of the environment.

If only z/OS® OMEGAMON® agents are reporting to the infrastructure, a hub monitoring server on a z/OS® system will not affect data conversion. Conversion takes place only once, when the portal server receives its data from the hub monitoring server. If both distributed and z/OS® based agents are reporting to the infrastructure, the data conversion time can be reduced by hosting the hub monitoring server on a distributed system. For distributed agents connecting to a hub monitoring server on a distributed system, no data conversion is required. The z/OS® agents connect to a remote monitoring server on a z/OS® system and data conversion occurs only once, when the hub monitoring server receives data from this z/OS-based remote monitoring server. After the z/OS® data is installed on the hub, no additional conversion is required when it is received by the portal server because the data has already been converted.

Historical data conversion is another area of consideration. Storing history at the agent is recommended, so in this case there is no monitoring server data conversion. However, if you collect history at the monitoring server where your agents are using different data conversion protocols than the monitoring server is using, you must complete the conversion process. This data must also go through yet another conversion when it is offloaded and converted again when it is retrieved from the data warehouse, if one is used.

## Network topology

Connectivity between the hub monitoring server and other directly connected components such as the remote monitoring servers must be fast and reliable. For all successful deployments, you must understand the network infrastructure. When planning your deployment, take into account each of the following important factors:

- **Location of firewalls**  
Tivoli® Management Services supports most common firewall configurations, including those that use address translation (application proxy firewall is a notable exception). To enable this support, use the piped protocols, which open a single port on the firewall for communication by IBM® products. If your environment includes a firewall between any components that must communicate with each other, you must specify at least one piped protocol during configuration.
- **Whether you have NAT (network address translation)**  
Network address translation limits the visibility of resources between different network segments. This issue can affect the monitoring infrastructure if this is not taken into account when configuring the ability for agents and the Tivoli® Enterprise Portal to connect to the hub monitoring server.
- **Network bandwidth between WAN (wide area network) links**  
The amount of bandwidth between the hub monitoring server and the connected infrastructure components can influence where the hub monitoring server is placed. In general, place the hub monitoring server where the most connected components have the fastest bandwidth access to it. For example, if two data center locations are serviced by a single hub, where possible place the hub the data center that will send the most traffic to it.
- **Number of agents that are located across WAN links**  
The amount of bandwidth between the hub monitoring server and the connected agents can influence where the hub monitoring server is placed. In general, place the hub monitoring server where most of the connected agents components have the fastest bandwidth access to it. Where this placement is not possible, the use of remote monitoring servers to act as agent concentrators might be a feasible option.

For more information on setting up communications across firewalls or between components that use NAT, see [How to set up communications between components](#). Also see the section on "Firewalls" in the *IBM® Tivoli® Monitoring: Installation and Setup Guide*.

## Failover capabilities and requirements

The requirement for high availability should dictate the degree of failover required for the hub monitoring server. A manual restart of the hub on another platform is sufficient, or you might need a high-availability hub. The important point is to understand the level of failover required, and then implement the hub monitoring server configuration with this in mind.

## Location of remote monitoring servers

It is a good idea to place a remote monitoring server on every z/OS® system where you are installing monitoring agents. In fact, two monitoring agents (OMEGAMON® for z/OS® and OMEGAMON® for Storage on z/OS®) require that you configure them in the same address space as a hub or remote monitoring server.

For advice about placing remote monitoring servers on distributed systems, see the *IBM Tivoli Monitoring: Installation and Setup Guide*.

### Tips:

- A remote monitoring server can report to a high-availability hub on the same LPAR.
- If the hub is not a high-availability hub, it cannot be on the same LPAR as any of the remote monitoring servers that report to it and that are configured to use any TCP/IP protocol.
- If more than one remote monitoring server is configured in a z/OS® image and if a TCP/IP protocol is being used for communication, the hub to which each remote monitoring server reports must have a unique port number. Otherwise, connectivity problems are likely.
- If more than one hub is configured in a z/OS® image, each hub must have a unique port number for any nonsecure TCP/IP protocols being used and a unique port number for any secure TCP/IP protocols being used.  
For information about port number allocation, see [“Port number assignments” on page 150](#).

- If a remote monitoring server is to communicate with any monitoring agents that require SNA, the remote monitoring server must be configured for SNA communications. Examples of such monitoring agents include OMEGAMON® for z/OS® (for the EPILOG facility of the OMEGAMON II® component) and OMEGAMON® for Messaging on z/OS® (for the 3270 interface component). See the product-specific configuration guides for further information about SNA requirements.

## Monitoring server names

Each monitoring server has a unique name used for internal processing. This name is known as the *TEMS name* or the *CMS name*. You specify the TEMS name for a monitoring server on a z/OS® system when you define the runtime environment in which the monitoring server is to be configured. The default name is *rte:CMS* (where *rte* is the name of the runtime environment). The TEMS name is stored as the value of the CMS\_NODEID environment variable in the KDSENV member of the *rhilev.rte.RKANPARU* data set.

In general, it is best to accept the default TEMS name. If you want to specify a different name, follow these guidelines:

- The TEMS name must be unique.
- The name is alphanumeric and must begin with an alphabetic character.
- The length of the name must be at least 2 characters and no more than 32 characters.
- The name cannot contain blanks or special characters (\$#@). An underscore (\_) is permitted and conforms to ISO 9660 standards. A period (.) is also valid.
- The TEMS name is case-sensitive on all platforms. If you use a mixed-case name, you must supply the same mixed-case name when you configure all components and monitoring agents that will connect to the monitoring server.

## Decision 4: How to configure your monitoring servers

There are number of options for configuring Tivoli Enterprise Monitoring Servers. Hub monitoring servers can be configured as high availability hubs and to forward monitoring events to an event server (Netcool/OMNIbus) for correlation and management. Both hub and remotes can be enabled to support self-describing agents, to provide security on an associated SOAP server, and to audit and record events in the monitoring environment.

### High-availability hub monitoring server

An operational hub monitoring server is essential to a monitoring environment. If the hub monitoring server address space fails, or if the system on which the hub is installed has a planned or unplanned outage, the flow of monitoring data comes to a halt. Therefore, it is important to restart the hub or move it to another system as quickly as possible. You can ensure continuous availability by using a high-availability (HA) hub monitoring server.

You can configure an HA hub monitoring server in any sysplex environment with dynamic virtual IP addressing (DVIPA) and shared DASD. An HA hub is configured in its own runtime environment, without any monitoring agents, and can be configured on the same LPAR with a remote monitoring server. System variables are not enabled on an HA hub. This configuration allows the hub monitoring server to be relocated to any suitable LPAR in the sysplex with no changes, and with minimal disruption to the components connecting to the hub.

**Best practices:** If you are configuring a hub monitoring server on z/OS and the requirements for configuring an HA are met, it is best practice to create one.

[“Figure: High-availability runtime environment” on page 135](#) shows a typical configuration with a high-availability hub runtime environment deployed.

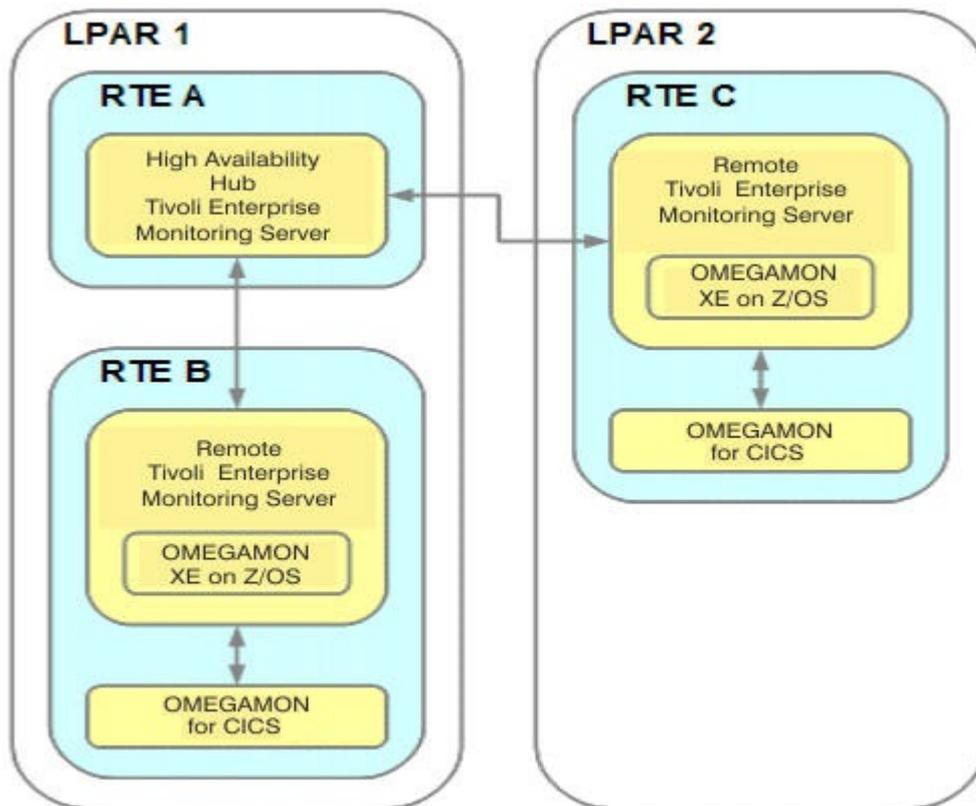


Figure 10: High-availability runtime environment

In this monitoring environment, you have two LPARs: LPAR 1 and LPAR 2. In LPAR 1, a runtime environment (RTE A) has been created containing just the hub monitoring server, which has been defined as a high-availability hub monitoring server with DVIPA. Because you also want to monitor LPAR 1 in addition to the subsystems running on it (in this example, CICS), a second runtime environment (RTE B) is created with a remote monitoring server and any monitoring agents that are needed.

**Note:** The OMEGAMON® for z/OS® monitoring agent shares an address space with the remote monitoring server while the OMEGAMON® for CICS monitoring agent runs within its own address space. On the second LPAR, a runtime environment (RTE C) is created in the same fashion as RTE B to monitor the systems and subsystems on that LPAR. It connects to the high-availability hub monitoring server through the DVIPA address. The advantage of the high-availability configuration is that if anything happens to LPAR 1, either planned or unplanned, the hub can be restarted on LPAR 2 without the need for reconfiguring the existing runtime environments.

For information about configuring a high-availability hub on z/OS® systems, see the following topics:

- Using Configuration Manager: [“How to: Create a high-availability hub monitoring server” on page 360](#)
- Using PARMGEN: [Configuring a high-availability hub, Scenario QCF01: Configuring a full RTE with a high-availability hub monitoring server](#)

For detailed information about the high-availability hub on distributed systems, see [IBM Tivoli Monitoring: High-Availability Guide for Distributed Systems](#).

## Self-describing agent feature

Self-describing agents include all the application support files required to recognize and process data from those agents. At startup, self-describing agents automatically push application support updates to their local monitoring server. The data is then replicated to the hub monitoring server and all other Tivoli® Management Services components that require it (such as the OMEGAMON® Enhanced 3270 user interface, the Tivoli® Enterprise Portal Server, and the Tivoli® Data Warehouse). Self-describing monitoring agents eliminate the need to recycle the monitoring server after application support updates, and to ensure that application support files

are current. If the self-describing features is not enabled, application support must be installed manually from a DVD and can easily get out of sync with the agent.

The self-describing agent feature (SDA) is enabled by default when you use Configuration Manager to create your runtime environment. You can selectively enable or disable SDA for individual agents or monitoring servers. In addition, SDA provides granular control over the products and versions for which application data is automatically installed.

**Note:** If you use PARMGEN to create your runtime environment, SDA is disabled by default. Before you can enable SDA, you must perform z/OS® UNIX® System Services system preparation set-up tasks to create the z/OS UNIX file system. Afterward, if your enterprise includes self-describing agents, you can enable SDA by changing parameter values for the monitoring agents and servers. For more information, see [“Enabling the self-describing agent feature at a monitoring server” on page 461](#).

To administer the self-describing agent feature, including exploiting its granular control of which products and versions are installed, the Tivoli administrative commands (tacmd) Command Line Interface (CLI) is required. The tacmd CLI is a product component that is installed on a distributed system and allows interaction with the monitoring server. For more information about the tacmd CLI, see [“\(If applicable\) Installing the tacmd CLI component” on page 524](#).

If you are planning to configure a hub monitoring server on a z/OS® system and enable the self-describing agent feature, you must create or set aside a z/OS UNIX Hierarchical File System (HFS) or zSeries File System (zFS) where the monitoring server can store the application support files. The file system must have access to a Java™ runtime environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) on an HFS or zFS file system.

Ensure that you complete the following steps before starting the configuration of the hub runtime environment:

1. Confirm that you have enough space on the z/OS UNIX file system. The amount required depends on the amount of agents you have deployed in your environment.
2. Confirm that a supported level of Java™ is installed and note the z/OS UNIX path for your Java™ home directory.
3. Determine the data set name of your SBXEXEC library.
4. Determine the z/OS UNIX path prefix where your runtime environment will store self-describing agent packages. These directories do not need to be created in advance; the configuration process will create them if needed.

## Granular control of self describing agent behavior

Granular control of self describing agent (SDA) behavior provides control over the products and versions for which application data is automatically installed.

On distributed systems, granular control of SDA blocks installation of all self-describing data unless a Tivoli administrative command (tacmd) is issued to allow installation of all products and versions, or to specify particular products and versions. On z/OS® hub monitoring servers, granular control is disabled by default. During upgrades of a hub where SDA is enabled, you are asked if you want to retain the current behavior (all products and versions updated) or enable granular control. For new z/OS® hub monitoring server installations, if you enable the granular control feature, you must use the tacmd Command Line Interface (CLI) to set which products and versions can be installed. The tacmd CLI is a product component that is installed on a distributed system and allows interaction with the monitoring server. For more information about the tacmd CLI, see [“\(If applicable\) Installing the tacmd CLI component” on page 524](#).

To implement granular control, issue one of the following commands using the tacmd CLI on a distributed platform, such as Windows™, UNIX™, or Linux™:

- **tacmd addSdaInstallOptions** to specify the products and versions for which the self-describing agent facility is allowed to install data.

OR

- **tacmd editSdaInstallOptions -t DEFAULT -i ON** to allow installations for all products and versions without any blocking. (This setting is essentially the default self-describing agent behavior in V6.2.3 and V6.2.3 FP1.)

## z/OS UNIX System Services and Java requirements

After your site activates self-describing agents on a hub Tivoli Enterprise Monitoring Server, the monitoring server must have access to a Java™ Runtime Environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) and an HFS or zFS file system accessed through z/OS UNIX. The self-describing agent function stores the application support packages in the z/OS UNIX file system and then invokes the Java™ **jar** command to extract the files from the application support packages stored there. Since IBM®'s Java™ runs on z/OS® under z/OS UNIX, this also means z/OS UNIX must be available with ~50MB of working space.

If your environment has more than 10 to 15 agent types, see the hardware and software requirements section of the *IBM Tivoli Monitoring: Installation and Setup Guide* for more details on the storage requirements.

If you use the self-describing agents feature on a Tivoli Enterprise Monitoring Server running on z/OS®, you must supply the z/OS UNIX directory where Java™ is installed. Using the PARMGEN configuration method, the directory is specified in the GBL\_HFS\_JAVA\_DIRn parameter. The value you supply gets set as the TEMS\_JAVA\_BINPATH statement in the KSDSDPROF file, which is created in the monitoring server's z/OS UNIX support directory.

When a monitoring server running on z/OS® installs a self-describing agent, it prepends the TEMS\_JAVA\_BINPATH value to the default z/OS UNIX PATH setting so it can locate the Java™ /bin directory where the **jar** utility resides. The **jar** utility is required to extract the files from the application support packages that were uploaded from the agent.

You must ensure that no older or inconsistent version of Java™ remains in the default z/OS UNIX PATH or LIBPATH libraries, because the older Java™ binaries may conflict with the Java™ binaries in the directory you supplied in a previous configuration. For example, the default LIBPATH on most z/OS UNIX systems is **LIBPATH=/lib:/usr/lib:**. Because this specification contains no Java™ binary directories, it will not conflict with the TEMS\_JAVA\_BINPATH setting, and so the jar utility invoked by a monitoring server should run successfully.

But if there is a LIBPATH setting that includes a Java™ directory with a different version of Java™ than you specified during configuration, the self-describing function could fail when it calls the **jar** utility. This failure occurs because the TEMS\_JAVA\_BINPATH value specifying one Java™ version has been prepended to the PATH setting, with a different Java™ version specified in LIBPATH. If these are incompatible Java™ versions, the **jar** utility cannot work correctly.

To resolve this problem, update the default z/OS UNIX LIBPATH setting so that it either omits the Java™ directory or specifies a directory at the same Java™ level. IBM® recommends that, if the **jar** utility invoked by the monitoring server fails to complete successfully, you verify that there isn't an inconsistent level of Java™ specified in the default z/OS UNIX PATH or LIBPATH setting that may be causing a binary incompatibility.

## Disk space requirements

The self-describing agent (SDA) feature requires not only access to a z/OS® UNIX® System Services environment, but also a fairly significant amount of disk space in that environment. The suggested amount of disk space is somewhere in the range of 25 to 50 MB.

The average disk space usage depends upon the type of monitoring server:

- a hub monitoring server requires ~3.25 MB per package
- each remote monitoring server requires approximately ~2 MB per package

The average amount takes into account the following considerations:

- The average amount of storage needed by the monitoring server SDA process to backup the existing product files in the \$TEMS\_MANIFEST\_PATH/SDMBACKUP directory.
- The hub monitoring server SDA process stores all existing SDA package files, including an SDA agent's Tivoli® Enterprise Portal jars, which are the largest jars, often in the 1 to 2 MB range.
- The remote monitoring has to store only an SDA agent's monitoring server jar files, which are typically less than 500K.

The amount of z/OS UNIX disk space required is also influenced by other factors:

- The amount of space will fluctuate depending on how many SDA agents register with the z/OS® monitoring server and whether multiple SDA installs are in progress.

- The jar files are extracted into individual files in subdirectories under the monitoring server z/OS UNIX home directory, and those individual files are copied to the runtime environment's RKANDATV library and then automatically deleted. But there will be a high-water mark at which there must be enough space for both the jars and the extracted contents of those jars. The allocated disk space must be generous enough to handle these spikes in disk usage.

## Group-based security for z/OS® UNIX® System Services directories

By default, the z/OS UNIX directories created by the configuration software for self describing agent (SDA) application support files are created with group and user directory permissions MODE(7,5,5), which sets permission as read-write-execute (7) for the owner, and read-execute (5) for all others (group and others). If you would like to implement a more secure access scheme for the directories, you can do so with group-based security.

The TEMS\_MANIFEST\_PATH parameter in the KDSENV member points to the name of the z/OS UNIX home directory where uploaded agent jar files and other application support files will be stored by the monitoring server. The parameter value consists of the runtime environment directory name followed by &rtename/kds/support/TEMS. By default, the KCIJPUSS job (PARMGEN) creates the RKANDATV(KDS\*) z/OS UNIX members to invoke the **mkdir** commands for the TEMS\_MANIFEST\_PATH directory and subdirectories with owner, group and others in permission MODE(7,5,5). For example, one of the **mkdir** commands processed by the PARMGEN KCIJPUSS job in WKANSAMU is this **mkdir** member in RKANDATV library:

```
VIEW   &rte_hilev.&rte_name.RKANDATV(KDSRMKDB)
%mkdir '/rtehome/ibmuser1/USSRTE1/kds/support/TEMS' MODE(7,5,5) +
```

The last 5 permission bit in the MODE(7,5,5) parameter grants read-execute permission to the z/OS UNIX directories for the runtime environment to *all* users. Note that the TSO user ID of the person running the job is not necessarily the user ID associated with the monitoring server started task. However, both user IDs require write access to the z/OS UNIX directories for the following reasons:

- To support the self describing agent feature, the z/OS® monitoring server must be able to add and remove files from these directories. A more restrictive MODE() parameter would prevent the monitoring server from doing so.
- The TSO user ID of the person running the z/OS UNIX jobs must have write access to these same directories.

To implement a more secure access scheme for the z/OS UNIX directories, use group-based security, as illustrated by the following example:

Assume that the TSO user ID `ibmuser1` is connected to three security groups, GROUP1, GROUP2, and GROUP3. Since GROUP1 is `ibmuser1`'s default group, all of the newly created z/OS UNIX directories are owned by GROUP1 by default. The user ID of the monitoring started task is `CANSDDSST` and it is connected to two security groups, GROUP2 and GROUP4. Since both user IDs have GROUP2 in common, the `ibmuser1` user ID could log on to z/OS UNIX and issue a **chgrp** command to set GROUP2 as the owner of the runtime environment's z/OS UNIX directories. For example:

```
/rtehome/ibmuser1> chgrp -R GROUP2 USSRTE1
```

Next, the `ibmuser1` user ID can issue a **chmod** command to change the original MODE(7,5,5) value, such as:

```
/rtehome/ibmuser1> chmod -R 775 USSRTE1
```

After this **chmod** command is issued, only users who are connected to GROUP2 will have write access to the z/OS UNIX directories for the runtime environment.

If the TSO user ID and monitoring server started task user IDs do not have any security groups in common, you would need to either connect one or both of the user IDs to a common security group, or define a new security group and connect both user IDs to that group. With either option, you still need to perform the **chgrp** and **chmod** actions.

## SOAP server

The *SOAP server* is an application server plug-in that receives and sends XML data, and provides XML SOAP interfaces into the Tivoli Management Services components and the monitoring agent. The SOAP server is installed with each monitoring server and is enabled during configuration of the hub monitoring server. During

configuration, you specify the list of non-local hub monitoring servers with which the local SOAP server can communicate.

SOAP services can add a whole new dimension to your use of the OMEGAMON® monitors. You can invoke SOAP from the Tivoli administrative commands (tacmd) Command Line Interface (CLI) to issue commands to manage the monitoring environment, such as turning situations on or off. SOAP can also enable very sophisticated automation solutions by opening up monitoring data for use by an automation product such as System Automation for z/OS®. For example, an OMEGAMON® situation that triggers an action in the automation product could be followed by a SOAP request to the monitor to get additional data. Automation could then use that data to validate the results or to take further action.

The Simple Object Access Protocol (SOAP) is a communication method that uses the Hypertext Transfer Protocol (HTTP) and Extensible Markup Language (XML) as the mechanisms for information exchange. Because web protocols are installed and available for use by all major operating system platforms, HTTP and XML provide a ready solution to the problem of how programs running under different operating systems in a network can communicate with each other. SOAP specifies exactly how to encode an HTTP header and an XML file so that a program in one computer can call a program in another computer and pass it information. It also specifies how the called program can return a response.

An advantage of SOAP is that program calls are likely to get through firewall servers that screen out requests other than those for known applications (through the designated port mechanism). Because HTTP requests are usually allowed through firewalls, programs using SOAP to communicate can generally communicate with programs anywhere.

## SOAP server terminology

To configure the SOAP server, you must understand certain terms that are used in the configuration.

### Hub monitoring server list

Aliasing mechanism for identifying which non-local hub monitoring servers can be accessed from the local SOAP server.

### KDSTHUBS

Global table used by all SOAP servers enabled in the installation library.

### KSHXHUBS

Member stored in the *rhilev.rte.RKANPARU* library and containing the hub monitoring server list.

### User access list

List of user IDs associated with the hub monitoring server list.

## SOAP server configuration and security

User access to a SOAP server can be secured in one of two ways: by enabling security and creating user accounts for the hub monitoring server, or by adding specific users to the SOAP server definition. If security is not enabled and no users are added to the server definition, the SOAP server honors all requests from any sender. If security is enabled on the hub monitoring server, the SOAP server honors requests only from users defined to the system authorization facility. However, if any users are added to the SOAP server definition, only those users have access to the server, regardless of whether security is enabled on the monitoring server.

SOAP server configuration creates a KSHXHUBS member in the *rhilev.rte.RKANPARU* library. The KSHXHUBS member contains the hub monitoring server list, an aliasing mechanism for identifying the hub monitoring servers with which the local SOAP server can communicate.

When enabling access to a non-local hub monitoring server from the SOAP server, you can choose one of these options:

- Enable global access to all user IDs that pass logon validation.
- Specify a hub monitoring server list and, for each monitoring server on the list, the user IDs that are allowed to query (read) or update (write to) that monitoring server.

You must still use external security to validate user IDs and passwords, after the user IDs pass validation with the KSHXHUBS member.

The hub monitoring server list in a runtime environment is maintained in the KDSTHUBS global table. KDSTHUBS is used by all SOAP servers that are enabled in the installation library. Any changes you make to the

hub monitoring server entries in KDSTHUBS affect KSHXHUBS members used in the different RKANPARU libraries for the runtime environments, when you reconfigure those runtime environments.

**Important:** Do not edit the KSHXHUBS member directly. Its XML tags and values require a specific format and are case-sensitive. If you want to change the contents of the KSHXHUBS member, do so in the PARMGEN configuration profile.

## Communication protocols

If you enable the SOAP server while configuring the hub, at least one of the communication protocols you specify must be either IP\*.PIPE or IP\*.UDP.

The communication protocols for the SOAP server are automatically initialized to the protocol values set for the runtime environment.

## Event forwarding

If you use the Netcool/OMNIBus™ product, in addition to the Tivoli Enterprise Portal, to manage events in your enterprise, you can configure a hub monitoring server to forward situation events to the event servers for correlation and management.

A hub monitoring server contains a Situation Event Forwarder component. The Event Forwarder maps Tivoli Enterprise Portal situation events to Tivoli® Event Integration Facility (EIF) events and uses the EIF interface to send the events to an OMNIBus EIF probe (the *EIF receiver*). The event receiver receives the forwarded events, and expand and format the events for the event servers. On the OMNIBus console, users can view, acknowledge, or reset situation events. The updated situation status is returned to the originating hub monitoring server and reflected in the OMNIBus console on the Tivoli Enterprise Portal.

The EIF is an application programming interface (API) that external applications can use to create, send, or receive events. These events are referred to as either EIF events or TEC/EIF events. For complete information about EIF, see the *IBM® Tivoli Enterprise Console Event Integration Facility Reference*. In the *IBM Tivoli Monitoring: Administrator's Guide*, the section “Customizing event integration with Tivoli Enterprise Console®” discusses the mapping of situation events to Tivoli Enterprise Console events; the section “Customizing event integration with Tivoli® Netcool/OMNIBus™” discusses the mapping of situation events to OMNIBus events.

The hub monitoring server must be configured to enable EIF forwarding and specify the default destination server.

If situation event forwarding is enabled, by default all situation events are forwarded to the EIF destinations defined when you configured the monitoring server. However, you can configure additional EIF receivers and selectively forward situation events to different destinations by using the EIF tab of the Tivoli Enterprise Portal Situation editor. You can also use the EIF tab to assign an OMNIBus severity to a situation.

The severity of EIF events is derived from the situation name. The severity is determined as follows:

- If the suffix of the situation name is either `_Warn` or `_Warning`, the EIF event severity is set to `WARNING`.
- If the suffix is either `_Crit` or `_Critical`, the severity is set to `CRITICAL`.
- If the severity cannot be determined from the suffix, a severity of `UNKNOWN` is assumed. You might have to use the EIF tab to set the severity for situations that display in the OMNIBus console with a severity of `UNKNOWN`. See the *IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide* for instructions on using the Situation editor to assign a situation severity.

## Auditing

The auditing function allows you to capture significant events occurring in your site's monitoring environment and record them in permanent storage for later retrieval and analysis. Each audit record fully describes some event that has changed the state of your monitoring environment: authorization and authentication failures (such as those that allow or disallow the execution of Take Action commands), and major and minor state changes (though they do not reflect the minor service messages stored in the RAS logs). Platforms covered include Windows™, UNIX/Linux, IBM® i, and z/OS®. The records stored are compatible with those created by Tivoli Business Service Manager.

Auditing and logging records can be stored in the Tivoli Data Warehouse. Standard reports are provided by the IBM Cognos® feature. In addition, the Tivoli Enterprise Portal Managed System Lists workspace (within the Enterprise icon) enables you to view auditing and logging records online; for information, see [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#).

Initially, the auditing function is turned off by default on all Tivoli Management Services nodes.

On z/OS®, the auditing facility optionally creates and stores Systems Management Facility (SMF) format type 112 records, coded in UTF-8 and included in a common repository (the SYS1.MANn data sets) with all other z/OS® event data. Note that SMF type 112 records are disabled by default in the SYS1.PARMLIB(SMFPRMxx) member. To display the current SMFPRMxx settings, invoke the z/OS® console command **D SMF**. For complete information on the syntax of this console command, including how you check which records are enabled for recording and how you dynamically change these settings, consult the *z/OS® System Management Facilities* document and the *MVS™ System Commands* reference.

The auditing data written covers the self-describing agents (including their auto-refresh feature), actions of the Warehouse Proxy Agent, successful and failed automation-command actions (for example, the invocation of Take Action commands), and IBM Tivoli Monitoring's integration with Tivoli Application Dependency Discovery Manager.

## Environment variables that control the auditing function

There are two environment variables that affect the auditing function when running on a z/OS®-based Tivoli Enterprise Monitoring Server: AUDIT\_TRACE and AUDIT\_SMF.

Using the PARMGEN method, these values are set using the **KDS\_AUDIT\_TRACE** and **KDS\_AUDIT\_SMF** parameters in the LPAR configuration profile (%RTE\_NAME%). Using the Configuration Tool, these values are set in the **Enable/Disable z/OS audit collection** field of the **Specify Advanced Configuration Values** panel.

### AUDIT\_TRACE

The auditing facility supports three levels of tracing:

#### Minimum

Records major changes to the product state such as authorization failure, new connections to the monitoring server or the portal server, or failed user login attempts.

#### Basic

Records any actions that modify objects or cause an access failure, such as attempts to modify monitoring server entities like situations and Take Action commands.  
This is the default tracing level.

#### Detail

Records all authorization requests, whether successful or failed, such as all successful logins and all modifications to entities such as Take Action commands.

#### Disabled

Disables the auditing function.

### AUDIT\_SMF

z/OS® only.

Controls the writing of auditing records to the System Management Facility.

#### Disabled

Prevents the creation of SMF records while still allowing IBM Tivoli Monitoring audit data to be recorded in the Tivoli Data Warehouse and for reporting purposes.

#### Enabled

Both SMF and warehouse audit records get written.  
This is the default for SMF recording.

Setting the trace level to Basic or Detail might require you to enlarge your SYS1.MANn data sets or to increase the frequency with which you offload Tivoli Monitoring audit data to your SMF archives. If you do not want to record Tivoli Monitoring events, you can disable SMF audit records (**AUDIT\_SMF=Disabled**) and thereby eliminate the storage requirements and I/O overhead necessary when writing SMF records.

## SMF recording of audit records

You can configure the Tivoli Enterprise Monitoring Server running on z/OS® to write audit records to the z/OS® System Management Facility (SMF). This configuration enables you to use SMF to integrate OMEGAMON events with the event data recorded by other products and components that run on your z/OS® system. You can extract OMEGAMON audit record data from SMF data sets (or from the archives of such data sets) for analysis of performance or resource utilization, and for validation of security events (authorization and authentication).

SMF provides facilities that let you suppress recording of SMF records by record types, event types (listed in [“SMF type-112 record subtypes”](#) on page 142 as record subtypes), and product codes (known as subsystem IDs, or SSIs).

SMF record subtypes and associated event type categories

<i>Table 18: SMF type-112 record subtypes</i>	
SMF 112 subtype	Event type category
32 (0x20)	permission checking
33 (0x21)	object maintenance
34 (0x22)	security maintenance
35 (0x23)	system administration
36 (0x24)	authorization validation
37 (0x25)	contextual event
38 – 47 (0x26 through 0x2f)	reserved

SMF record 112 subtypes 32 – 37 (0x20 through 0x25) share a common, fixed header format followed by a variable-length field of up to 8,912 bytes that contains XML-encoded event data, as shown in [“SMF record 112 format”](#) on page 142.

Descriptions of format for type 112 SMF records

<i>Table 19: SMF record 112 format</i>					
Name	Assembler name	Type	Length	Offset	Description
smf112len	SMF112LEN	Binary (unsigned short)	2	0	Record length (RDW1). Maximum size 32756. This field and the next (total of four bytes) form the record descriptor word (RDW). The first two bytes (this field) must contain the logical record length including the RDW1 field. The second two bytes (the following field) are used for variable-block, spanned records. If the record is not spanned, set these two bytes to hexadecimal zeros.
smf112seg	SMF112SEG	Binary (unsigned short)	2	2 (0x02)	Segment descriptor (RDW2); see smf112len field.

Name	Assembler name	Type	Length	Offset	Description
smf112flg# defined constants:  FLGSTY FLGSP4 FLGSP3 FLGSP2 FLGVS2	SMF112FLG predefined EQU constants:  FLGSTY FLGSP4 FLGSP3 FLGSP2 FLGVS2	Binary (unsigned char) predefined values:  0x40 0x10 0x08 0x04 0x02	1	4 (0x04)	Header flag byte. Contains the system indicator bits. <b>Bit</b> <b>Meaning when set</b> <b>0</b> Reserved. <b>1</b> Subtypes are valid. <b>2</b> Reserved. <b>3</b> MVS/SP Version 4 and above. Bits 3, 4, 5, and 6 are on. <div style="border: 1px solid blue; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> IBM® recommends you use record type 30 to obtain the MVS™ product level.</p> </div> <b>4</b> MVS/SP Version 3. Bits 4, 5, and 6 are on. <b>5</b> MVS/SP Version 2. Bits 5 and 6 are on. <b>6</b> VS2. Bit 6 is on. <b>7</b> Reserved. System indicator bits are automatically set when the record is written.
smf112rty# defined constants:  RTY112	SMF112RTY predefined EQU constants:  RTY112	Binary (unsigned char) predefined values:  112 (0x40)	1	5 (0x05)	Record type (hexadecimal values are 0-FF). Record type 112 (0x70) for this record type.
smf112tme	SMF112TME	Binary (unsigned int)	4	6 (0x06)	Time since midnight, in hundredths of a second, that the record was moved into the SMF buffer.

Name	Assembler name	Type	Length	Offset	Description
smf112dte	SMF112DTE	Packed Decimal (char [4])	4	10 (0x0A)	Date when the record was moved into the SMF buffer, in the form 00yydddF or 0cyydddF (where c is 0 for 19xx and 1 for 20xx, yy is the current year (0-99), ddd is the current day (1-366), and F is the sign).
smf112sid	SMF112SID	Char (char [4])	4	14 (0x0E)	System identification (also known as the SMFID).
smf112ssi	SMF112SSI	Char (char [4])	4	18 (0x12)	Subsystem ID(OMEGAMON® product code). This field is a four-byte character value set by the SUBSYS= <b>option</b> keyword specified to SMF. Refer to member RKANSAM(KOLSSI) for a partial list of product codes.
smf112sty #defined constants:  STY_EVENT_CHECKING STY_EVENT_OBJMAINT STY_EVENT_SECMANT STY_EVENT_SYSADMIN STY_EVENT_ACTION STY_EVENT_VALIDATE	SMF112STY predefined EQU constants:  STY_EVENT_CHECKING STY_EVENT_OBJMAINT STY_EVENT_SECMANT STY_EVENT_SYSADMIN STY_EVENT_ACTION STY_EVENT_VALIDATE	Halfword (unsigned short) predefined values:  32 (0x20) 33 (0x21) 34 (0x22) 35 (0x23) 36 (0x24) 37 (0x25)	2	22 (0x16)	Record subtype 32-37 (0x20-0x25):  Permission Checking event Object Maintenance event Security Maintenance event System Administration event Authorization Validation event Contextual event
ai_rev #defined constants:  AICVER	AIVER predefined EQU constants:  AICVER	Fullword (unsigned long) predefined values:  1	4	24 (0x18)	Audit information version. This release is 1.
ai_jname	AIJNAME	Char(char [8])	8	28 (0x1c)	Name of the address space issuing this SMF record.
ai_asid	AIASID	Halfword (unsigned short)	2	36 (0x24)	ID of the address space issuing this SMF record.
ai_event_len	AIEVENTLEN	Halfword (unsigned short)	2	38 (0x26)	Length of the null-terminated string in ai_event_info, including the null terminator. Smallest length is 1 for a null string.

Name	Assembler name	Type	Length	Offset	Description
ai_event_info	AIEVENTINFO	Char (char [8192])	1-8192	40 (0x28)	A null-terminated string containing the audit event data encoded in XML. The maximum length of this field is 8192 bytes, but the actual length is specified by ai_event_len. The contents of the field depend on the record subtype, which is directly associated with the Event Type Category for this record. Refer to <a href="#">“SMF type-112 record subtypes” on page 142</a> for further information.

In addition, your site can write its own exits that programmatically decide which records are suppressed. See the *z/OS® System Management Facilities* reference for details.

The following sample Tivoli Monitoring RKANSAM library members are provided to assist you in extracting data from various subtypes of type-112 records:

**Member**

**Contents**

**KOLSMFA**

Record format as an assembler language DSECT.

**KOLSMFC**

Record format as a C typedef.

**KOLSMFCX**

Sample program to extract and print the contents of IBM Tivoli Monitoring SMF records.

**KOLSMFCC**

Sample JCL to compile RKANSAM(KOLSMFCX).

**KOLSMFS**

Record format as a SAS DATA statement.

**KOLSMFSX**

Sample SAS program to extract and print the contents of Tivoli Monitoring SMF records.

**KOLSMFSC**

Sample JCL to run RKANSAM(KOLSMFSX).

**KOLSSI**

Partial list of product codes (SSIs) mapped to Tivoli® product names.

Additional reference material is provided on the Tools DVD in the XML directory: see either `kolddtd.samp1ib` or the copy in the runtime environment's RKANSAM library, member KOLDDT. This DTD (document type definition) contains XML metadata that describes each XML record's constituent fields and their contents.

## Decision 5: Where to configure your monitoring agents

Two monitoring agents (OMEGAMON® for z/OS® and OMEGAMON® for Storage on z/OS®) require that you configure them in the same address space as a hub or remote monitoring server. For the other monitoring agents, you have the option to configure each monitoring agent as *stand-alone* (in its own address space) or in the same address space with a monitoring server.

**Terminology tip:** The term *stand-alone* can be confusing, because it has one meaning when applied to a monitoring server and another meaning when applied to a monitoring agent. A *stand-alone monitoring server* is one configured in its own runtime environment, without any monitoring agents. A *stand-alone monitoring agent* is one configured in its own address space, rather than in the same address space with a monitoring server. A stand-alone monitoring agent can be in the same runtime environment with a monitoring server, but a stand-alone monitoring server is never in the same runtime environment with monitoring agents.

## Best practices

- Unless you are planning to configure a high-availability hub, configure one runtime environment per logical partition (LPAR). In each runtime environment, configure a monitoring server (hub or remote) and all agents required for monitoring the various workloads on that system. Configure all monitoring agents to report to the monitoring server in their runtime environment.
- Unless a monitoring agent is required to run in the same address space as a monitoring server, it is best to configure each monitoring agent stand-alone (in its own address space). Configuring the monitoring agents stand-alone has several advantages:
  - A stand-alone monitoring agent can be started and stopped independent of the monitoring server.
  - If a monitoring server fails or becomes unresponsive, stand-alone agents that report to it can switch to a secondary monitoring server specified during configuration.
  - You can apply maintenance to a stand-alone monitoring agent without interfering with the operation of other components.
  - Troubleshooting is easier if each monitoring agent is identified in trace logs by its own started task.

Even if you configure a monitoring agent stand-alone, it still might report to the same monitoring server as other monitoring agents. Therefore, make sure that the values you supply when configuring the monitoring server are compatible with the requirements of all the monitoring agents intended to report to that monitoring server. For example, some monitoring agents may require a SNA connection between the agent and the monitoring server.

## Self-describing agents

Self-describing agents include all the application support files required to recognize and process data from those agents. At startup, self-describing agents automatically push application support updates to their local monitoring server. The data is then replicated to the hub monitoring server and all other Tivoli® Management Services components that require it (such as the OMEGAMON® Enhanced 3270 user interface, the Tivoli® Enterprise Portal Server, and the Tivoli® Data Warehouse). Self-describing monitoring agents eliminate the need to recycle the monitoring server after application support updates, and to ensure that application support files are current. If the self-describing features is not enabled, application support must be installed manually from a DVD and can easily get out of sync with the agent.

By default, the self-describing agent feature is enabled within any remote monitoring server and any monitoring agent that provides self-describing support but the feature is disabled at the hub monitoring server. If your enterprise includes self-describing agents, you can enable the self-describing agent feature by changing parameter values for the hub monitoring server.

For more information, see [Enabling the self-describing agent feature at a monitoring server](#).

## Autonomous agents

You can choose to configure stand-alone monitoring agents to run in *autonomous mode* (without communicating directly with a monitoring server). An autonomous agent can emit Simple Network Management Protocol (SNMP) traps and Event Integration Facility (EIF) events directly to a Netcool®/OMNIbus ObjectServer for agent-specific situations (but not for enterprise situations). Autonomous agents can be advantageous in environments where disk space or transmission bandwidth is in short supply.

An autonomous agent requires the DSEVT DDNAME in the monitoring agent started task in the *rhilev.rte.RKANSAMU* data set. This DDNAME points to the *rhilev.rte.RKDSEVT* data set.

The *IBM Tivoli Monitoring: Installation and Setup Guide* provides instructions for configuring Netcool®/OMNIBus ObjectServers to receive the events. For information on specifying which situation events to forward, see the Tivoli Enterprise Portal online help and the *IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide*.

For information about parameters to set for an autonomous agent, see the "Agent autonomy" chapter of the *IBM Tivoli Monitoring: Administrator's Guide*. You can add these parameters for an autonomous agent on a z/OS® system by editing the Kpp\$PENV member of the PARMGEN WCONFIG library.

For instructions on enabling SNMP V3 passwords for autonomous agents, see [Enabling SNMP V3 passwords for autonomous agents](#).

## Decision 6: How to set up communications between components

A number of communication protocols are available for connections between the hub and remote monitoring servers and between each monitoring agent and the monitoring server it reports to. You configure each monitoring server to use one or more of these protocols, and you assign a priority number to each protocol selected. When the monitoring server attempts to communicate with another component, it tries the highest-priority protocol first. In case of failure, it goes on to the second-priority protocol, and so on. Every component configured to communicate with a monitoring server must have at least one communication protocol in common with that monitoring server.

The communication protocols are of two basic types:

### SNA

Because some monitoring agents on z/OS® systems require SNA, it must be one of the protocols selected for a monitoring server communicating directly with those monitoring agents. However, SNA does not have to be the highest-priority protocol.

### TCP/IP

The TCP protocols available are IP.PIPE, IP.SPIPE, IP6.PIPE, IP6.SPIPE, IP.UDP, and IP6.UDP. For the hub monitoring server, at least one of the protocols chosen must be a TCP protocol to support the SOAP server. If you plan to implement long-term historical data collection, communication with the Tivoli Data Warehouse also requires a TCP protocol.

IP.PIPE is the default protocol. All of the piped protocols (IP.PIPE, IP.SPIPE, IP6.PIPE, and IP6.SPIPE) enable the monitoring software to traverse most firewall configurations. If you choose piped protocols for the monitoring server and monitoring agent, be aware of the following limitations:

- The maximum number of piped processes per host is 16.
- The piped protocols use only one physical port per process.

If you are configuring a high-availability hub monitoring server, Dynamic Virtual IP Addressing (DVIPA) is required on the z/OS® system. This allows the high-availability hub to be moved and restarted on, for example a different LPAR, without the need for reconfiguration should problems occur or if you have a planned maintenance outage on the LPAR where it was originally running. DVIPA requires a piped TCP/IP protocol to be used and the address of the monitoring server must be resolvable through the Domain Name Server (DNS).

Your communication protocol settings for a monitoring server on a z/OS system are saved in the KDE\_TRANSPORT environment variable of the KSENV member of the *rhilev.rte.RKANPARU* library for the runtime environment.

## Requirements for TCP/IP communication protocols

The Tivoli Enterprise Monitoring Server and the OMEGAMON enhanced 3270 user interface have special TCP/IP requirements. You must also provide a TCP/IP started task name.

Review the following TCP-related requirements.

### Default OMVS segment

To use the TCP/IP communication protocols, a Tivoli Enterprise Monitoring Server on a z/OS® system requires a default OMVS segment. See the *z/OS® Communications Server IP Configuration Guide* for an explanation of how to provide an OMVS segment. The OMVS segment is also required for the Tivoli OMEGAMON enhanced 3270 user interface.

### UID for the enhanced 3270 user interface started task

The enhanced 3270 user interface uses BPXmmm services, which are part of z/OS® UNIX® System Services, for TCP/IP. So a user ID defined with an OMVS segment must be created for the enhanced 3270 user interface started task.

### TCP/IP stack name

You are prompted for a TCP/IP started task name when you create a runtime environment and when you configure a monitoring server or monitoring agent. In a new runtime environment, the default value for the TCP/IP started task name is an asterisk (\*). This default, which uses the first TCP/IP stack that was started, is suitable if the LPAR contains a single TCP/IP stack.

If the LPAR contains more than one TCP/IP stack, you can specify the started task name of the TCP/IP stack you want to use; or you can specify the number sign (#), which is translated to a blank and allows the TCP/IP environment to choose the stack to use, either through TCP/IP definitions or through the use of the SYSTCPD DD statement.

Whichever method is used to select a TCP/IP stack in a multi-stack environment, the Tivoli Management Services components continue to use that stack, even if a different stack becomes the primary stack.

Therefore, in a multi-stack environment, it is best to specify the started task name of the TCP/IP stack to be used, rather than specifying a wildcard or a blank.

## Firewall support

Tivoli Management Services supports most common firewall configurations, including those that use address translation (application proxy firewall is a notable exception). To enable this support, use the piped protocols, which open a single port on the firewall for communication by IBM® products. If your environment includes a firewall between any components that must communicate with each other, you must specify at least one piped protocol during configuration.

During startup, the monitoring server registers its services and the IP address of these services with a *location broker*. Clients such as monitoring agents send queries to the location broker to request address information for a service, and receive a list of protocols and IP addresses at which these services are available. The client then sends a specific server request to one of the addresses in the list received from the location broker. Service registration with the location broker assumes address continuity.

If the published address of the monitoring server is identical and reachable for either side of the firewall, then nothing further has to be done to achieve communications in this firewall environment. If the same address cannot be reached from either side of the barrier firewall, then either ephemeral pipe support or broker partitioning is required.

For more information about configuring firewall support, see the following publications:

- Instructions for enabling firewall support for the z/OS® components: [Configure a Tivoli Enterprise Monitoring Server](#) and the configuration documentation for each monitoring agent.
- Instructions for enabling firewall support for the distributed components: the "Firewalls" section in the [IBM Tivoli Monitoring: Installation and Setup Guide](#).
- Conceptual information about IBM Tivoli Monitoring firewall support: *IBM Tivoli Monitoring: Implementation and Performance Optimization for Large Scale Environments, SG24-7443*, which you can find at the [IBM Redbooks® website \(https://www.redbooks.ibm.com/\)](https://www.redbooks.ibm.com/).

## Ephemeral pipe support

Ephemeral pipe support allows piped connections to cross a NAT (network address-translating) firewall without a broker partition file. Ephemeral pipe support is enabled when IP\*. \*PIPE connections cross a NAT firewall. If this default does not suit your network, you can disable ephemeral pipe support and use location broker partitioning instead, or you can force ephemeral connections to be used even when piped communications do not cross a NAT firewall.

Ephemeral pipe support and location broker partitioning for address translation are mutually exclusive.

## Disabling ephemeral pipe support

To disable ephemeral pipe support, specify Y as the value of the KDS\_TEMS\_COMM\_ADDRESS\_XLAT parameter in the PARMGEN configuration profile.

See "[Broker partitioning](#)" on [page 149](#) for information about enabling address translation through a broker partition file.

## Forcing ephemeral connections

Under some circumstances, you might want to force ephemeral connections to be used for IP\*. \*PIPE communications, even if they do not cross a NAT firewall. For example, if your configuration requires more than 16 piped processes on a host, ephemeral connections make it possible to exceed the TCP maximum. However, forcing ephemeral connections can have serious drawbacks:

- If an ephemeral connection breaks between a monitoring agent and the monitoring server to which it reports, the monitoring server might not be able to originate a connection back to the monitoring agent.
- The address of a monitoring agent configured for ephemeral connections is randomly assigned in the monitoring server logs. Tracing and troubleshooting are more difficult as a result.
- Extra configuration might be required for enabling communications between the monitoring agents and the Warehouse Proxy agent.

If you want to force ephemeral connections, use the EPHEMERAL option of the KDE\_TRANSPORT environment variable.

- EPHEMERAL : Y or EPHEMERAL : OUTBOUND forces outbound connections to be ephemeral.

**Important:** You can specify EPHEMERAL : Y or EPHEMERAL : OUTBOUND for a monitoring agent or a remote monitoring server, but *not* for a hub.

- EPHEMERAL : INBOUND forces inbound connections to be ephemeral.

You can specify the EPHEMERAL option in the Kpp\_X\_KDE\_TRANSPORT\_OPTIONS parameter in your PARMGEN configuration file .

For information about ephemeral pipe support on distributed components, see [IBM Tivoli Monitoring: Installation and Setup Guide](#).

## Broker partitioning

Address translation is an enhanced security feature of some firewall configurations. With this feature, components that must be reached across the firewall have two unique but corresponding addresses: the *external address* (valid for components outside the firewall) and the *internal address* (valid for components inside the firewall). A component on either side of the firewall knows only about the address that is valid for its *partition* (its own side of the firewall).

You can configure broker partitioning during configuration of the monitoring server on a z/OS® system. To do so, you specify Y as the value of the KDS\_TEMS\_COMM\_ADDRESS\_XLAT parameter in the PARMGEN configuration profile. You also supply the label that identifies the location of the monitoring server relative to the firewalls used for address translation, as the value of the KDS\_TEMS\_PARTITION\_NAME parameter in the PARMGEN configuration profile.

The partition name that you supply is added to the partition table, which contains labels and associated socket addresses provided by the firewall administrator. The label is used outside the firewall to establish monitoring server connections.

Additionally, you supply the IP address of the monitoring server in its own partition, and the partition name and address assigned to the monitoring server from a location on the other side of each firewall being used. These values are saved as the KDC\_PARTITIONFILE environment variable in the KDSENV member of the rhilev.rte.RKANPARU library. KDC\_PARTITIONFILE points to a new member, KDCPART, created in the rhilev.rte.RKANPARU library.

Then, when you configure a monitoring agent that reports to the monitoring server, you specify Y as the value of the address translation parameter, and you supply the partition label of the monitoring server. These values are saved as the KDC\_PARTITION environment variable in the monitoring agent's KppENV member of the rhilev.rte.RKANPARU library.

The well-known port for the hub monitoring server must be authorized by the firewall administrator. For the IP\*. \*PIPE protocols, no additional ports require authorization. For the IP\*.UDP protocols, a range of UDP ports must be authorized.

## Firewall gateway support

A *firewall gateway* provides end-to-end connectivity options for environments with specific TCP/IP connection management policies. The firewall gateway can negotiate numerous firewall hops and supports network address translation. You can use a firewall gateway to configure network traffic so that it is always initiated from the more secure network zone, if two communicating components are in zones with different security levels.

A firewall gateway can be the most advantageous firewall configuration if any of the following conditions apply:

- A single TCP connection cannot span between product components. Example: communication between components requires crossing more than one firewall in an environment with a policy that does not allow a single connection to traverse more than one firewall.
- Connection requirements do not allow the default pattern of connections to the hub monitoring server. Example: agents fail to connect to a monitoring server in a zone with higher security than that of the agents; security policy allows a connection to be established from a more secure zone to a less secure zone, but not the other way around.
- Open firewall ports must be reduced to a single port or connection. The gateway can consolidate the ports into one. Example: agent failover and monitoring server assignment must be managed symbolically at the hub monitoring server end of the connection. Because gateway connections are made between matching service names, an administrator can change the failover and monitoring server assignment of agents by changing the client proxy bindings at the hub monitoring server.

To configure the firewall gateway, you must perform two tasks:

1. Create an XML document that specifies a set of zones, each of which contains at least one server (upstream) interface with one or more embedded client (downstream) interfaces. The XML document must be stored as a member of the *rhilev.rte.RKANPARU* library, and the member name must conform to z/OS® naming standards (no more than 8 characters). Here is an example of a gateway XML document, stored as the ZOSPROXY member of the RKANPARU library:

```
000001 <tep:gateway xmlns:tep="http://xml.schemas.ibm.com/tivoli/tep/kde/"
000002   name="zOSproxy" threads="32">
000003 <zone name="trusted" maxconn="512" error="ignore">
000004 <interface name="zosproxy_upstream" role="proxy">
000005 <bind ipversion="4" localport="pool2K" service="tems_pipe">
000006 <connection remoteport="1920">127.0.0.1</connection>
000007 </bind>
000008 <interface name="zosproxy_downstream" role="listen">
000009 <bind ipversion="4" localport="60902">
000010 </bind>
000011 </interface>
000012 </interface>
000013 </zone>
000014 <portpool name="pool2K">20000-21023 21024-22047</portpool>
000015 </tep:gateway>
```

For reference information about the elements of the gateway XML document, see the “XML document structure” section of the Firewalls appendix to the *IBM Tivoli Monitoring: Installation and Setup Guide*.

2. In the *KppENV* member of the *rhilev.rte.RKANPARU* library, add a KDE\_GATEWAY environment variable that references the XML document.  
Example:

```
KDE_GATEWAY=ZOSPROXY
```

## Port number assignments

Tivoli Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server is 1918 for IP.PIPE, IP.UDP, IP6.PIPE, and IP6.UDP. For the secure IP protocols (IP.SPIPE and IP6.SPIPE), the default port number is 3660. For SNA, the default is 135. It is generally best to accept the default setting. However, you might find it necessary to change the setting

under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component.

## Algorithm for allocating port numbers

Tivoli Management Services uses an algorithm to allocate port numbers for monitoring agents and other components to use in communications with the local monitoring server, under any of the TCP protocols.

The algorithm is

$$\text{allocated port} = \text{well-known port} + (N * 4096)$$

where:

- *well-known port* is the port number assigned to the monitoring server (for example, the default, 1918).
- *N* indicates the position of the monitoring agent or other component in the startup sequence.

For example, if there are a monitoring server and two monitoring agents on a system, and the monitoring server uses port 1918, the first monitoring agent in the startup sequence is assigned port 6014 (1918 + 1\*4096), and the second monitoring agent to start is assigned port 10110 (1918 + 2\*4096).

## Controlling port number assignments

You can change the port number assignments in either of two ways.

- Changing a TCP port number assigned to the monitoring server.
- Using the SKIP and COUNT options with the `Kpp_X_KDE_TRANSPORT_OPTIONS` parameter for Tivoli Enterprise Monitoring Server (TEMS) and monitoring agents.

You can also use the POOL option with the `Kpp_X_KDE_TRANSPORT_POOL_OPTIONS` parameter for TEMS and monitoring agents to limit connections to a specific range of port numbers.

## Changing a TCP port number assigned to the monitoring server

If you change a TCP port number assigned to a monitoring server on a z/OS® system, the port numbers allocated for the local monitoring agents also change, because the algorithm starts from the monitoring server's well-known port. You can use this method to avoid conflicts with ports reserved for other applications or components. If you specify a high number, conflicts are less likely than if you use the default or specify a low number for the monitoring server's well-known port.

### Tips:

- Only one remote monitoring server in an LPAR can report to a given hub. If more than one remote monitoring server is configured in an LPAR, the hub to which each remote monitoring server reports must have a unique port number. Otherwise, connectivity problems might occur.
- If you change a port number for a hub monitoring server, you must reconfigure all the components that communicate with it. If you change a port number for a remote monitoring server, you must reconfigure all the agents that report to it. In a large enterprise, this can be a large task.

## Using the SKIP and COUNT options to control port number assignments

For piped protocols (IP\*.PIPE, but not IP\*.UDP or SNA), you can use the SKIP and COUNT options to control the way port numbers are assigned to components.

You can specify these options in `Kpp_X_KDE_TRANSPORT_OPTIONS` parameter (where the *pp* variable is the agent prefix) for Tivoli Enterprise Monitoring Server (TEMS) and monitoring agents.

- The COUNT:*N* option is the mechanism for reserving IP.PIPE ports for components that connect to the monitoring server. *N* is the number of IP.PIPE ports to reserve on the host system, in addition to the well-known port for the monitoring server.

For example, if the well-known port for the monitoring server is 1918, COUNT:3 starts the search at port 6014 (1918 + 1\*4096). If the monitoring agent process cannot bind to port 6014, the algorithm tries port 10110 (1918 + 2\*4096). If port 10110 is not available, the search goes to port 14206 (1918 + 3\*4096).

The monitoring agent is assigned to the first available port encountered in the search. The process fails to start if the search reaches the highest port number without a successful binding (port 14206 in this example).

Use the COUNT option to reserve ports for components that must be accessible from outside a firewall. Because these ports must be permitted at the firewall, the ports must be predictable.

- The SKIP:*N* option specifies the number of ports to skip when starting the search for an available port. For example, if the well-known port for the monitoring server is 1918, SKIP:2 specifies to start the search at port 10110 (1918 + 2\*4096), skipping ports 1918 and 6014 (1918 + 1\*4096). The algorithm continues searching until it finds an available port.

Use the SKIP option for components that do not require access across a firewall.

## Using the POOL option to set a range of port numbers

After the port allocation algorithm assigns a well-known port to each process, all subsequent ports allocated for connections between components are *opaque* ports; that is, any available port can be allocated for a connection. You can limit opaque port allocations to a specific range of ports by using the POOL option.

You can use the POOL option with the `Kpp X KDE_TRANSPORT_POOL_OPTIONS` parameter (where the *pp* variable is the agent prefix) for Tivoli Enterprise Monitoring Server (TEMS) and monitoring agents.

The POOL option must specify a range of ports no smaller than 2 and no larger than 1024. `POOL:1000-2023` is valid; `POOL:1000-2024` is not. If more than 1024 ports are required in a pool for a specific protocol, you can code more than one POOL option, as in `POOL:1000-2023 POOL:3000-4023`.

## Network interfaces

If your site runs more than one TCP/IP interface or network adapter on the same z/OS® image, you can specify network interfaces to be used by monitoring servers and monitoring agents on a z/OS® system. You specify the network interfaces in the IP communication protocol parameters for each component.

Before you begin configuring the monitoring server, decide whether you require a network interface list and, if so, which of the following values to specify for it:

- The host name or IP address of the preferred interface.
- A list of host names or IP addresses, in descending order of preference. Use a blank space to separate the entries.
- An asterisk (\*) to prefer the interface associated with the default host name for the z/OS® image. To display this value, enter `TSO HOMETEST` at the command-line.
- An exclamation point followed by an asterisk (!\*) to use only the interface associated with the default host name for the z/OS® image.
- An exclamation point followed by a host name or IP address (!*hostname*) to use only the interface associated with *hostname*.
- A minus sign followed by a host name or IP address (-*hostname*) to use any interface except the one associated with *hostname*.

If you provide a value for the `KDS_TEMS_TCP_KDEB_INTERFACELIST` parameter in the PARMGEN configuration profile, the `KDEB_INTERFACELIST` environment variable is added to the `KDSENV` member of the `rhilev.rte.RKANPARU` library.

### Important:

- If you set the value of this parameter to !\* or !*hostname*, you must specify the same value for every component and product configured in all runtime environments on the same z/OS® image.

- In the default character set (language locale en\_US.ibm-037), the code for an exclamation point is x'5A'. If you are using a character set other than the default, a different character might map to that code. To require a specific network interface, use the character that maps to x'5A' in your character set.

See [Configuring a high-availability hub](#) for special considerations in specifying the KDEB\_INTERFACELIST environment variable for a high-availability hub.

## Disabling the HTTPS or HTTP server

If your environment uses an HTTP server but not an HTTPS server, or vice versa, you can prevent unnecessary error logging by specifying configuration parameters to disable the unused server. For a monitoring server, the HTTP or HTTPS server is used both for the Service Console and for the SOAP server. For a stand-alone monitoring agent, the HTTP or HTTPS server is used for the Service Console only.

To disable an HTTPS server, the HTTPS option in the KDE\_TRANSPORT environment variable must be set to 0 (zero) in the Kpp ENV member of the *rhilev.rte*.RKANPARU library. To disable an HTTP server, the HTTP option in the KDE\_TRANSPORT environment variable must be set to 0 (zero).

Disable the HTTPS server by setting the value of the *Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS* parameter to HTTPS:0 in the PARMGEN LPAR configuration profile. Similarly, you can disable the HTTP server by setting the value of the *Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS* parameter to HTTP:0 in the PARMGEN configuration profile.

**Important:** If you disable both the HTTP server and the HTTPS server in the KDSENV member (which contains environment variable definitions for the monitoring server), you disable the SOAP server. The SOAP server is required if you want to use the Tivoli administrative commands (tacmd) Command Line Interface (CLI) to administer the self-describing agent feature.

## Decision 7: Whether and where to use variables

Variables allow systems to share parameter definitions while retaining unique values in those definitions. Variables can take on different values, based on the input to the program. When you specify a variable in a shared parameter definition, the variable acts as a placeholder. Each system that shares the definition replaces the system variable with a unique value during initialization.

If you use variables, the components inherit the system values of the system on which they are started (the host z/OS® system). These system-specific values are then automatically loaded into temporary data sets that exist only while the component runs. The result is that the software runs correctly by using the system-specific parameter values for the host z/OS® system.

Using variable support includes the following benefits:

- You can deploy the same software unit, consisting of any or all TMS:Engine-based products, on any system without modification. LPAR-specific values are automatically resolved and substituted at product startup.
- The number of unique runtime environments required is smaller (although unique physical data sets must still exist.) This feature saves storage space, CPU, and labor.
- The same started task JCL and the same VTAM® node can be used on any system without modification.
- You can choose to use a single VTAM® major node in place of the individual product major nodes. When generated, a single VTAM® major node contains all VTAM® applids for all TMS:Engine-based products you have configured in the runtime environment.

### Tips:

- You cannot use variables in the runtime environment of a high-availability hub. (Because the high-availability hub can be started on any LPAR with DVIPA, parameters such as the monitoring server node ID, name, and VTAM major node must be set to static values.)

- Product started tasks contain a preprocessing step that resolves all variable specifications in the product parameter members.
- If you enable variable support, product parameter members contain many variables whose values are resolved during startup of the started task.

See the *z/OS® MVS™ Initialization and Tuning Reference (SA22-7592)* for basic information on system variables.

See [Variables in PARMGEN configuration](#) for more information about using variables.

## Decision 8: Whether to collect historical data and how to manage it

Historical data collection is an optional feature that is enabled through the Tivoli Enterprise Portal or the OMEGAMON enhanced 3270 user interface. If you enable historical data collection, monitoring agents are instructed to take data samples at a specified interval and store it. The collected data can be displayed in workspaces in the Tivoli Enterprise Portal or the enhanced 3270 interface, warehoused for in-depth analyses and long-term data reporting, and exported to third-party tools for reporting and analysis.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Historical data collection can be configured through either Tivoli Enterprise Portal or the enhanced 3270 interface. In the Tivoli Enterprise Portal, you configure and start historical data collection through the History Collection Configuration window of the Tivoli Enterprise Portal.

In the enhanced 3270 user interface, you configure historical data collection using the OMEGAMON History Configuration workspace. In both instances, you specify the attribute groups for which you want data to be collected, the interval for data collection, the location where you want the collected data to be stored (at the monitoring server or at the agent). In the Tivoli Enterprise Portal, you can also specify whether you want the data to be migrated to the Tivoli® Data Warehouse. Note that you cannot configure data warehousing through the enhanced 3270UI, nor can you configure summarization and pruning. Only a subset of attributes can be configured and displayed in the enhanced 3270UI.

On z/OS® systems, historical data is stored in data sets maintained by the persistent data store. If you enable historical data collection during configuration, space is allocated for the data sets. Persistent data store maintenance options should also be configured.

**Important:** The Tivoli Enterprise Portal displays only 24 hours of data from the persistent data store data sets (*short-term history*). Data older than 24 hours is taken from the Tivoli Data Warehouse (*long-term history*). So to display more than 24 hours of data in the portal, you must configure data warehousing. The enhanced 3270UI can display as much data as is stored in the persistent data store (near-term history). However, the enhanced 3270UI cannot display data from the Tivoli Data Warehouse and you cannot configure the Warehouse Proxy and Summarization Pruning agents from the enhanced 3270UI.

Historical data collection consumes CPU and storage, so it is important to plan data collection carefully. Consider the following planning decisions before you begin to configure historical data collection and storage:

- [“What data to collect and how often” on page 155.](#)
- [“Where to collect data” on page 155.](#)
- [“How much space to allocate” on page 156.](#)
- [“How to manage collected data” on page 156.](#)

## What data to collect and how often

The impact of historical data collection and warehousing depends on many factors, including collection interval, frequency of roll-off, number and size of historical tables collected, amount of data, number of monitored resources, and system size.

The *IBM Tivoli Monitoring: Administrator's Guide* discusses the impact of historical data collection and warehousing on Tivoli Management Services components. The documentation for many OMEGAMON monitoring agents provides information about the space requirements and size of individual attribute tables, to help you estimate the impact of data collection.

Give careful consideration to what data you actually require. Historical data collection can be specified for individual monitoring servers, products, and attribute tables. Depending on your requirements, you can configure historical data collection for only a subset of attribute tables. Such a configuration can reduce storage and CPU consumption, particularly if you choose not to perform historical data collection for high-volume attribute tables or for attribute tables with many bytes per row (many attributes). Collect only the data that you plan to use in historical reports. Collect that data only as frequently as your enterprise requires.

The collection interval set in the History Collection Configuration window can be as short as a minute or as long as a day. The shorter the interval, the faster and larger the history files grow at the collection location. Short collection intervals also increase CPU consumption and network traffic. Do not set a one-minute collection interval unless your work requires it. If you require frequent collection of historical data, be sure to allocate extra space for the persistent data store. Insufficient allocation of space results in inability to view short-term data and can result in loss of historical data. Allocate enough space for 24 hours of short-term historical data at the location of the persistent data store.

Decisions about what data to collect always involve trade-offs between the usefulness of the data collected and the cost of collecting and managing the data.

## Where to collect data

Historical data can be stored as short-term data either at the monitoring agent or at the monitoring server to which the agent reports. Where you decide to collect the data determines what steps you take to configure the persistent data store.

### Best practices

Two OMEGAMON® monitoring agents (OMEGAMON® for z/OS® and OMEGAMON® for Storage on z/OS®) must be configured within the address space of a monitoring server. Therefore, any historical data collection for these agents must also be stored at the monitoring server. For all other agents, whenever possible configure historical data to be collected and stored at the monitoring agent rather than at the monitoring server.

**Tip:** For best performance, avoid collecting historical data at the hub. See *IBM Tivoli Monitoring: Administrator's Guide* for details.

If an agent is configured to run in the monitoring server address space, like OMEGAMON® for z/OS® and OMEGAMON® for Storage on z/OS®, the persistent data store is configured in two locations:

- During configuration of the monitoring server, the generic persistent data store (RPDSGRP) is configured and the generic data sets (RGENHIS\*) are allocated.
- During configuration of the OMEGAMON® monitoring agent, product-specific historical data sets are allocated.

If a monitoring agent runs in its own address space (stand-alone), and you intend to collect historical data only at the location of the monitoring agent, you can configure the persistent data store during configuration of the agent only. However, to ensure that you have flexibility to collect data at the monitoring server at some later date, configure the persistent data store at the location of the monitoring server as well. If you have no monitoring server in the runtime environment, configuring the persistent data store for the monitoring agent allocates the generic data sets as well as the private data sets.

Data can be uploaded to the Tivoli Data Warehouse for long-term storage and reporting. However, warehoused data can only be viewed using the Tivoli Enterprise Portal. Data warehousing is configured in the Historical Data Collection window of the Tivoli Enterprise Portal. See the *IBM Tivoli Monitoring: Installation and Setup Guide* for

instructions on setting up the Tivoli Data Warehouse and the Warehouse Proxy and Summarization and Pruning agents. See the [IBM Tivoli Monitoring: Administrator's Guide](#) for instructions on configuring data warehousing.

## How much space to allocate

Data written to the persistent data store is organized by tables (attribute groups), groups, and data sets. Each table is assigned to a group; each group can have one or more tables and one or more data sets assigned to it. The size of the persistent data store (spread across the data sets), the groups that are selected, and the activity of the system or subsystem monitored determines how much data is available. By default, one group and six data sets are allocated. When you configure the persistent data store, the persistent data store processing computes how much space is required for the group data store files and how much additional required space is required for overhead information. (Overhead information includes the product dictionary, table records, index records, and spare room for buffers that must be reserved for when the data set is full.) However, you might have to adjust the space allocated.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Initially, you should accept the default number of cylinders and groups provided by each product (`Kpp_PD_CYL=`, `Kpp_PD_GRP=`). Eventually, you can determine the correct amount of space by observing how often the maintenance procedures are running and adjusting space according. To help you make more specific calculations, the product documentation for the monitoring agents provides estimated space requirements or information about attribute tables. You might want to make your own calculations, based on site-specific factors: what types of monitoring agents are running, what resources are being monitored, how many resources, and so on. You can also take a trial-and-error approach. If you are not seeing as much data in your reports as you would like, you can override the defaults.

Increasing the group count (number of data sets used to provide the total number of cylinders of persistent data store space) is a way to reduce the total space required, by reducing the percentage of the total space required for the in-use and empty data sets. Increasing the group count to 6 or 8 dramatically reduces the total space required. (The maximum group count value is 36.) Another benefit of increasing the group count is that roll-off to the warehouse as well as short-term history queries perform better when the individual data sets are smaller. The overhead for more frequent data set switches caused by the increased group count (and presumably by executions of the maintenance procedures) is more than offset by the gains in efficiency.

When historical data is collected in generic history data sets at the monitoring server, the same considerations apply, but the data sets must be sized to contain the data from all of the agents that write to them.

For more information on changing the size of the persistent data store, see [Resizing persistent data store files](#) and [How to: Change PDS file count and file size](#).

## How to manage collected data

If you intend to configure historical data collection, you must make provisions for handling the collected data. Without such provision, on distributed computers the history data files grow unchecked, using up valuable disk space. On z/OS® systems, the data sets allocated to the persistent data store are emptied and overwritten.

On distributed systems, if warehousing of the data is configured, the files are automatically pruned after the data is inserted into the Tivoli Data Warehouse by the Warehouse Proxy agent. On z/OS® systems, the persistent data store data sets are not pruned after data is inserted into the Tivoli Data Warehouse by the Warehouse Proxy agent. A record is written in the persistent data store to indicate where to begin exporting data to the Warehouse Proxy agent the next time, and the exported data is kept in the persistent data store until it is overwritten or deleted by other means.

Tivoli Management Services provides automatic maintenance for the data sets in the persistent data store. When a data set becomes full, the persistent data store selects an empty data set to make active. When the data set is active, the persistent data store checks to see whether any data sets are empty. If not, the persistent data store begins maintenance on the oldest data set. However, before it begins processing, it checks to see whether one or more of the following functions have been configured:

- BACKUP makes an exact copy of the data set being maintained.

- EXPORT writes the data to a flat file in an internal format that can be used by external programs to post-process the data. This function is also used for recovery when the persistent data store detects potential problems with the data.
- EXTRACT writes the data to a flat file in human-readable form suitable for loading into other database management systems (DBMS).

If no function has been specified, the data is deleted from the data set.

You specify which maintenance options are implemented when you configure the persistent data store. [Maintaining the persistent data store](#) provides more information about how the persistent data store operates and how maintenance is performed.

## Decision 9: Which security options to enable

The security options you decide to employ can determine tasks you must complete in advance, such as arrangements you must make with security administrators or accounts you must set up. Your security decisions can also dictate certain choices during configuration, such as the selection of secure protocols when configuring communication between components.

Tivoli Management Services and the OMEGAMON monitoring agents offer several security options. The information in the following topics is intended to help you decide which security options you want to enforce and what steps you need to take to enable that security.

### Related topic:

[“Predefining and managing OMEGAMON started tasks” on page 1252](#)

## Secure communication between components

User IDs and passwords sent between Tivoli® Management Services components are encrypted by default. To secure other communications, use SPIPE (IP:SPIPE, IP6:SPIPE) as the protocol when you configure communication between the Tivoli Enterprise Portal Server and the hub Tivoli Enterprise Monitoring Server, between hub and remote monitoring servers, and between agents and monitoring servers.

A secure pipe is an implementation of the Internet Protocol's pipe specification that uses the Secure Sockets Layer (SSL) API. Tivoli Management Services uses two additional protocols for securing communications that also use SSL: HTTPS to retrieve files and Interoperable Object Reference (IOR).

- The integrated browser in the Tivoli Enterprise Portal desktop client provides HTTPS support on the client side; for the server, consider using a web server that supports HTTPS, such as the IBM® HTTP Server. For more information on using web servers, see the [IBM Tivoli Monitoring: Installation and Setup Guide](#). For information about disabling an HTTPS server, see [“Disabling the HTTPS or HTTP server” on page 153](#).
- Internet Inter-ORB Protocol (IIOP) is used to secure the communications between the portal server and client.

SSL uses public key cryptography. Tivoli® Monitoring includes the Global Security Toolkit (GSKit) for SSL processing. GSKit is installed by default with all distributed components, and its utilities are used to create and manage the encryption of data between components through the use of digital certificates.

On z/OS® systems, GSKit is known as the Integrated Cryptographic Service Facility, or ICSF. If ICSF is not installed on the z/OS® system, the monitoring server uses an alternative, less secure encryption scheme. Because both components must be using the same scheme, if the hub system does not use ICSF, you must configure the Tivoli Enterprise Portal to use the less secure scheme (EGG1) as well. For more information, see the [IBM® Tivoli® Monitoring: Installation and Setup Guide](#).

A default certificate and key are provided with GSKit at installation. A stash file provides the database password for unattended operation. You can also use the key management facility (iKeyMan) in GSKit to generate your own certificates.

**Important:** Use of SSL protocols and services on z/OS by the IBM Tivoli Management Services on z/OS requires that an Application Transparent Transport Layer Security (AT-TLS) policy be configured and operational in the runtime environment.

## OMEGAMON enhanced 3270 user interface security

The OMEGAMON® enhanced 3270 user interface uses the system authorization facility (SAF) interface to authorize and authenticate users. Planning for security includes deciding who requires access to the OMEGAMON® enhanced 3270 user interface, what information they may view, and what Take Action commands they should have permission to invoke; choosing or creating an SAF class that will contain the SAF resources; then ensuring that the required IDs are given the appropriate authority to those resources.

The existence of the SAF user ID and its validity are always checked. The enhanced 3270 user interface also runs SAF authorization checks to determine if the user has the authority to perform the following actions:

- Log on to this instance of the user interface.
- View the data from queries for specific types of data (attribute groups) on a specific managed system
- Transmit a Take Action request to a specific managed system
- Perform the following interface activities:
  - List users of the enhanced 3270 user interface.
  - Save a data set member.
  - Start or stop user interface tracing.
  - Start or stop internal tracing.
  - Modify (**Save As**) any PDS member that is named with a user ID different than that of the current user.
  - Change auto-update preferences.
  - Enter a command on the command line.
  - Create and modify a profile member name that is the same as the user's user ID.
  - Use a hub Tivoli® Enterprise Monitoring Server.
  - Configure near-term history

User permissions and the amount of security that is imposed are assigned by site administrators. Authorization works as follows:

- If *no* SAF security class is supplied (value for RTE\_SECURITY\_CLASS is missing or blank), users may log on to the OMEGAMON® enhanced 3270 user interface, may access data through queries, but may not issue Take Action commands.
- If a SAF security class is supplied, but the class is not defined and active in SAF, no one may log on to the OMEGAMON® enhanced 3270 user interface.
- If a SAF security class is supplied, and is defined and active in SAF, but no logon profile is defined, no one may log on to the OMEGAMON® enhanced 3270 user interface.
- If a user is able to log on, and a different security class than the one used for logon is used for queries or for Take Action commands (but is not activated or resources are not defined in that security class), everyone can view data for any managed system and perform other commands and activities, but all Take Action commands are denied.
- If a security class name is configured, resource profiles must be defined to control log on, data access, and Take Actions, and users must be given access to those profiles.

Before security is configured in the environment by providing a resource class name, a security administrator must complete the following setup tasks:

1. Define an SAF general resource class.
2. Define logon profiles to control access to the enhanced 3270 user interface.
3. Define Take Action profiles to control access to enhanced 3270 user interface data actions.
4. Define Query profiles to control access to OMEGAMON® enhanced 3270 user interface data sources.
5. Define profiles to control permissions to additional activities performed using the enhanced 3270 user interface.
6. Permit access to the profiles by appropriate personnel.

See [Enable security for the OMEGAMON enhanced 3270 user interface](#) for information about how to configure security resource profiles.

At a minimum, update the security settings to secure the Take Action function. Failure to correctly secure this powerful function of the OMEGAMON® enhanced 3270 user interface might give all users full control to modify the managed system, including starting and stopping applications.

**Note:** The following activities are separately secured by the Data Facility Storage Management System (DFSMS):

- Display a member list for a data set
- Browse the contents of a data set member
- Save a data set member

## Tivoli Enterprise Portal security

Access to the Tivoli Enterprise Portal (*authorization*) is controlled by user accounts (IDs) defined to the portal server. Authentication of users is controlled through either the hub Tivoli Enterprise Monitoring Server or the Tivoli Enterprise Portal Server.

In addition to defining the user IDs that are authorized to log on to the Tivoli Enterprise Portal, these accounts define the permissions that determine the Tivoli® Enterprise Portal features a user is authorized to see and use, the monitored applications the user is authorized to see, and the Navigator views (and the highest level within a view) the user can access. An initial **sysadmin** user ID with full administrator authority is provided during installation so you can log in to the Tivoli Enterprise™ Portal and add more user accounts. No password is required to log on to the Tivoli Enterprise Portal, unless user authentication is enabled.

The hub Tivoli Enterprise Monitoring Server can be configured to authenticate, or *validate*, user IDs using either the local system registry or an external LDAP-enabled registry. The Tivoli Enterprise Portal Server can be configured to authenticate through an external LDAP registry. If authentication is not enabled through either the monitoring server or the portal server, no authentication is performed and no password is required to log on to the Tivoli Enterprise™ Portal.

User IDs that have to make SOAP Server requests (including user IDs that issue CLI commands that invoke SOAP server methods) can be authenticated only through the hub monitoring server. User IDs that require the ability to share credentials with other web-enabled Tivoli® applications (single sign-on capability, or SSO) must be authenticated through the portal server and mapped to unique user identifiers in an LDAP registry shared by all SSO-eligible Tivoli® applications.

Do not enable user authentication before completing and testing at least a basic installation of Tivoli® Management Services components and monitoring agents. The first time you configure the hub monitoring server, do not enable security. Complete the following steps before you reconfigure the hub to enable security:

1. Configure all products and verify that they are operating correctly.
2. If you choose a third-party security package, verify that it is installed and configured correctly for your site.
3. Create user IDs in the Tivoli Enterprise Portal, and authorize the users to access resources.
4. Create the user IDs and passwords on the system hosting the hub monitoring server.

You do not have to define and authorize additional user IDs before you enable security, but you must define and authorize the **sysadmin** user ID.

As part of your preparation for deployment, determine which users require access to the Tivoli Enterprise Portal and which features, applications, and views the users must access.

Also determine which users you want to authorize to issue Take Action commands from the Tivoli Enterprise Portal. You can have the issuers of z/OS® console commands authorized by IBM Z® NetView (see [Configuring IBM Z NetView authorization of z/OS commands](#)). Monitoring agents can have product-specific requirements for authentication. Consult the documentation for each monitoring agent for more information.

For instructions on enabling authentication on a hub monitoring server on Windows™, UNIX™, and Linux™ operating systems, managing user accounts and permissions, or enabling the Tivoli Enterprise Portal Server for

single sign-on, see the [IBM Tivoli Monitoring: Administrator's Guide](#). For instructions on enabling authentication on a hub monitoring server on a z/OS® system, see [Enabling security validation on a z/OS hub](#).

## OMEGAMON® 3270 Classic interface security

You can provide security for the OMEGAMON® 3270 Classic interface by using a combination of security types and implementations. You must implement security at both the product level and the command level. Product-level security provides user ID and password validation to detect and prevent unauthorized access to the OMEGAMON® product. Command-level security prevents the unauthorized use of sensitive commands from OMEGAMON® 3270 Classic panels and by OMEGAMON® users.

The OMEGAMON® 3270 Classic interface is available for the following OMEGAMON products: OMEGAMON for CICS, OMEGAMON® AI for Db2, OMEGAMON for IMS, and OMEGAMON for z/OS.

You can implement product-level (logon access and authorization) and command-level security using either external or internal security, or a mixture, as follows:

- External security uses another security package (such as IBM RACF®) to control access. External security can be used for securing logon validation and command validation.
- Internal security uses the security included within the product to control access for commands. By default, OMEGAMON command validation is controlled by an internal security table. Internal product security is not available for logon validation.
- A mixed implementation mixes the security used at the product level and the command level. For example, you can use RACF® for logon authentication, and then use internal security at the command level.

If security is enabled on a z/OS hub monitoring server, you must use the same security implementation for the OMEGAMON® 3270 Classic interface as is used for the hub.

### External security and logon validation

The OMEGAMON® 3270 Classic interface uses the System Authorization Facility (SAF) interface to implement external security. SAF provides a system interface to z/OS security software, such as IBM RACF. The method by which you set up the SAF interface depends on the type of authentication that you intend to use when logging on to the OMEGAMON 3270 Classic interface, as follows:

- If you will be using traditional eight-byte mainframe passwords only, you must use an external security exit to implement the SAF interface. The security exit is a user-customized assembler module that generally defines the SAF security class and SAF application ID for OMEGAMON Classic started tasks. A sample SAF exit is provided, which might require modification to conform to installation standards.
- If you will be using passphrase and multi-factor authentication, OMEGAMON implements the SAF interface without the use of external security exits. The SAF security class and SAF application ID are defined as startup parameters to the OMEGAMON logon program. In order for a user ID to use a passphrase, the user ID must be set up in the security system.

**Note:** Passphrase support for the OMEGAMON 3270 Classic interface is introduced with APAR OA57133 (PTF UA98944).

See the configuration documentation for the specific OMEGAMON® monitoring products for instructions on implementing security for the OMEGAMON 3270 Classic interface. If you will be using passphrase and multi-factor authentication, see also [“How to: Configure passphrase and MFA support in the OMEGAMON 3270 Classic interface” on page 362](#).

### Related topics:

- IBM Z OMEGAMON AI for CICS 6.1: [Securing the OMEGAMON for CICS \(3270\)](#)
- IBM Z® OMEGAMON® AI for Db2 6.1: [Classic User Interface customized security](#)
- IBM OMEGAMON for IMS on z/OS 5.5: [The OMEGAMON for IMS Classic Realtime Monitor security facility](#)
- IBM OMEGAMON for z/OS 5.5: [Securing OMEGAMON](#)
- IBM Z OMEGAMON AI for z/OS 6.1: [Securing OMEGAMON for z/OS \(Classic realtime collector\)](#)

- Passphrase and multi-factor authentication: “[How to: Configure passphrase and MFA support in the OMEGAMON 3270 Classic interface](#)” on page 362

## SOAP server security

User IDs that require access to the SOAP Server, including user IDs that issue commands that invoke SOAP methods, must be authenticated through the hub monitoring server. If user authentication is *not* enabled on the hub monitoring server, anyone can make requests to the SOAP Server. If user authentication *is* enabled on the hub, the SOAP Server honors requests only from user IDs and passwords authenticated by the local or external registry. If type of access is specified for specific users, requests from only those users for which access is specified are honored.

You can control access to the SOAP server in two ways:

- You can control *who* is permitted to make requests by enabling user authentication on the hub monitoring server.  
If user authentication is *not* enabled, the SOAP server honors all requests regardless of the sender. If user authentication *is* enabled on the hub monitoring server, the SOAP server honors requests only from users defined to the operating system or security authorization facility of the host of the monitoring server.
- You can control *what type of requests* users are permitted to make by configuring the SOAP server.

**Important:** If you specify a specific type of access for any users, the SOAP server honors requests only from those users, regardless of whether or not authentication is enabled.

User authentication is enabled by setting the `KDS_TEMS_SECURITY_KDS_VALIDATE` in the LPAR configuration profile to Y.

## IBM Tivoli Monitoring Service Console security

The Service Console performs user authentication using the native security facility of the host operating system. This means that if you use the Service Console on a z/OS® system, your user ID and password are checked by the z/OS® security facility (such as RACF/SAF). If you use the Service Console on Windows™, the Windows™ workstation user ID and password are required for authentication.

The IBM Tivoli Monitoring Service Console enables you to read logs and turn on traces for remote product diagnostics and configuration. A password is always required to access the Service Console. Even if a user ID is allowed to log in to the operating system without a password, access to the Service Console is denied without a password. If necessary, create a password for the user ID that is being used to log in to the Service Console.

For more information about the Service Console, see [IBM Tivoli Monitoring: Troubleshooting Guide](#).

## Decision 10: Which user interfaces to use

Most OMEGAMON® monitoring products support the available z/OS-based 3270 “green screen” interfaces as well as the graphical interfaces. The interfaces differ in the information they offer, the infrastructure they require, and the security they provide. The capabilities of each interface, as well as the familiarity of a user community with a specific type of interface, should be considered when deciding which interface to provide.

For many products, it is possible to provide multiple user interfaces, allowing users to access the product in the manner more appropriate to their skills and familiarity. Review the following available user interfaces and considerations:

- The IBM® OMEGAMON® enhanced 3270 user interface requires that you install one or more Tivoli Enterprise Monitoring Servers, but it offers plex-level as well as system-level and cross-product data and enhanced functionality.
- The graphical [IBM Z® OMEGAMON® Web UI](#) interface requires you to install Grafana and one or more Tivoli Enterprise Monitoring Servers. For additional requirements depending on platform, see [Installation of OMEGAMON Web UI](#).
- The “[Tivoli Enterprise Monitoring Server REST services](#)” on page 58 interface is a REST API that you can use to integrate OMEGAMON data into your custom applications, including dashboards and automation, or third-party analytical tools (such as Splunk, Elastic, and Grafana).

- The graphical IBM Z Service Management Explorer interface is a web application that runs as a Zowe desktop plug-in. Installing and maintaining Java and TEP software on client workstations is not required.
- The graphical Tivoli Enterprise Portal interface requires that you install one or more Tivoli Enterprise Monitoring Servers and a Tivoli Enterprise Portal Server, which must be installed on a distributed platform.
- The older 3270 user interfaces require less infrastructure, but these interfaces provide more limited information and customization options.

Review the following sections to decide which interfaces to use.

## OMEGAMON® enhanced 3270 user interface

The OMEGAMON® enhanced 3270 user interface retains the virtues of the earlier 3270 interfaces, while offering many of the features of the Tivoli Enterprise Portal in a native 3270 interface.

- The ability to view plex-wide data, data from multiple systems, and data from multiple agents in the same interface or even the same workspace
- The ability to modify product-provided workspaces to create customized views and queries, and or create new workspaces
- The ability to set dynamic filters
- The ability to define or modify thresholds that trigger status indicators
- The ability to view near-term historical data.

One or more enhanced 3270 interface address spaces can be deployed on any given sysplex. A monitoring agent or a remote monitoring server must run in the same sysplex as the interface to enable discovery and communications with the associated hub monitoring server.

The OMEGAMON® enhanced 3270 user interface requires that at least one hub monitoring server be configured. The scope of the data displayed by the interface is determined by the scope of the associated hub monitoring server. If a hub monitoring server configuration connects agents from systems that span multiple sysplexes, the enhanced 3270 interface displays data from multiple sysplexes.

**Important:** The enhanced 3270 user interface uses BPXmmm services, which are part of z/OS® UNIX® System Services, for TCP/IP (connect, send, receive, and so forth). A user ID defined with an OMVS segment must be created for the enhanced 3270 user interface started task.

Self-describing agents (SDA) do not provide all the information that the Enhanced 3270 user interface requires to display its data. If your environment includes a high-availability hub monitoring server with SDA is enabled, consider placing the enhanced 3270 user interface in its own runtime environment (RTE). An e3270UI configured in its own RTE requires more DASD, but it give you more control over maintenance upgrades. If SDA is enabled and you do not want to place the e3270UI in its own RTE, place the e3270UI in an RTE with a remote monitoring server designated as a backup proxy and monitoring agents.

## IBM Z® OMEGAMON® Web UI

IBM Z OMEGAMON Web UI is a browser-based graphical user interface for monitoring and managing z/OS systems using data from OMEGAMON monitoring agents. IBM Z OMEGAMON Web UI requires IBM Z OMEGAMON Data Requester, a Grafana® application plug-in.

IBM Z OMEGAMON Web UI uses Grafana dashboards to provide visualization and analysis of performance data gathered by OMEGAMON monitoring agents. IBM Z OMEGAMON Web UI provides the following key capabilities:

- Web-based monitoring: Provides access to OMEGAMON performance data from any supported web browser.
- Situations management: Allows you to create, view, and manage alert conditions to identify and respond to critical issues.
- Role-based access control: Allows you to secure dashboards and situations through role-specific permissions.

- Customizable dashboards: Allows you to design and share personalized views tailored to specific monitoring needs.
- Integrated architecture: Enables communication between the Tivoli Enterprise Monitoring Server and Grafana using the OMEGAMON Gateway.
- Administrative user interface: Simplifies configuration and automation of monitored environments.
- OMEGAMON Data Requester: Retrieves and filters real-time and historical data.
- Dashboards: Provide real-time and historical visualization of performance metrics of all OMEGAMON monitoring agents.

For more information, including system requirements and installation steps, see [IBM Z OMEGAMON Web UI](#).

**Note:** Starting with Tivoli® Management Services on z/OS® 6.4, IBM Z OMEGAMON Web UI and Grafana are included as components.

## Tivoli Enterprise Monitoring Server REST services

Tivoli Enterprise Monitoring Server (TEMS) REST services provide access to OMEGAMON data using HTTP REST calls.

Tivoli Enterprise Monitoring Server (TEMS) REST services provide access to OMEGAMON data using HTTP REST calls. Using the TEMS REST services, you can retrieve real-time and historical data collected by the monitoring agents, the configurations used for collecting the historical data, select managed system information, and information about situations. You can also perform activities such as starting, stopping, creating, editing, and deleting situations; executing or deleting a Take Action; and deleting a history collection configuration.

Using TEMS REST services, you can integrate OMEGAMON data into your custom applications, including dashboards and automation, or third-party analytical tools (such as Splunk, Elastic, and Grafana).

TEMS REST services are implemented with the OpenAPI Specification 3.0.3.

For more information, see [“Tivoli Enterprise Monitoring Server REST services” on page 1080](#).

## IBM Z Service Management Explorer (IZSME)

This graphical user interface is a web application that runs as a Zowe desktop plug-in.

**Note:** IBM Z Service Management Explorer is a web-based replacement for the Tivoli Enterprise Portal (TEP). The same layout, workspaces, situations, and data available in the TEP are available in IZSME. IZSME is a web application running as a Zowe desktop plug-in, which eliminates the need to install and maintain Java and TEP software on client workstations, as required with the TEP.

IBM Z Service Management Explorer (IZSME) provides the following features:

- The ability to view the data from multiple agents or multiple systems in a single workspace for business views and unit-of-work views
- Graph and table views
- Integral historical data collection, reporting, and warehousing
- Integration with other Tivoli® and IBM® products, including single sign-on

IZSME is a web application, running as a Zowe desktop plug-in, and uses the standard browser interface. Using the IZSME interface requires defining and running the Tivoli Enterprise Portal Server, a hub Tivoli Enterprise Monitoring Server, and potentially one or more remote monitoring servers. The agents that will provide data also have to be configured. For more information, see [“IBM Z Service Management Explorer” on page 1128](#).

## Tivoli Enterprise Portal interface

This graphical user interface may be accessed through a Java™-based desktop client or a supported browser. The Tivoli Enterprise Portal provides the greatest number of features, but requires the most infrastructure.

The Tivoli Enterprise Portal provides the following features:

- The ability to merge the data from multiple agents or multiple systems into a single workspace for business views and unit-of-work views
- The ability to define specific conditions that should be monitored (situations)
- The ability to define colored highlights and sounds to alert operators when events occur
- Proactive automation to respond to situations
- Highly customizable graph and table views
- Integral historical data collection, reporting, and warehousing
- Customizable historical reporting
- Integration with other Tivoli® and IBM® products, including single sign-on
- Event forwarding to event management systems LDAP authentication

The portal uses the standard browser interface and is user-friendly to most users and is often the preferred interface for operation centers, managers, and technical staff. Using the Tivoli Enterprise Portal interface always requires defining and running the Tivoli Enterprise Portal Server, a hub Tivoli Enterprise Monitoring Server, and potentially one or more remote monitoring servers. The agents that will provide data also have to be configured. For more information about the Tivoli Enterprise Portal, see the [\*IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide\*](#).

## OMEGAMON® (3270) and OMEGAMON II® (CUA®) interfaces

The older 3270 interfaces require the least amount of product-specific architecture to support. These interfaces perform well and are user-friendly to systems programmers and administrators that are familiar with an ISPF-based 3270 interface. Standard and custom PF Key settings, menu options, and command-line interface options allow for short cuts to commonly viewed screens. While basic customization options allow for highlights and other eye-catcher techniques to be added to the interface, the customization options are limited. The 3270 interfaces use dedicated connection features and avoid disk I/O. Documentation may be out-of-date or difficult to find.

The OMEGAMON® (3270) and OMEGAMON II® interfaces do not provide plex data, cross-LPAR monitoring, or cross-product views. However, you can get limited multisystem monitoring and cross-system views using OMEGAMON® DE. The following OMEGAMON® products provide older 3270 interfaces:

- IBM® OMEGAMON for z/OS®
- IBM Z® OMEGAMON® for CICS®
- IBM® OMEGAMON for Db2® on z/OS®
- IBM® OMEGAMON for IMS® on z/OS®
- IBM® OMEGAMON for Messaging on z/OS®
- IBM® OMEGAMON for Storage on z/OS®
- IBM® OMEGAMON for Networks on z/OS®

OMEGAMON on z/OS® and OMEGAMON for Storage require more infrastructure than the other agents: a Tivoli Enterprise Monitoring Server must be installed in the same runtime environment as each monitoring agent and the OMEGAMON component to be configured. (While the OMEGAMON on z/OS® agent can be configured to run as a stand-alone system, that is, outside of a monitoring server, such a configuration does not support plex data.)

The other agents do not require either a portal server or a monitoring server, and require only configuration of the OMEGAMON II® component.

## What to do next

After you finish planning your deployment and installing components where desired, you can begin the configuration tasks.

For an overview of the configuration process and an explanation of the configuration steps, the topics in the [Configuring products and components on z/OS](#) section. If you know exactly which RTEs you want to configure, see the appropriate scenarios in [Scenarios](#).

**Note:** If you are planning new started tasks and system automation, see the recommended naming conventions and critical planning information in [Predefining and managing OMEGAMON started tasks](#).

## Planning an upgrade or installation

Before installing or upgrading the components of Tivoli® Management Services and the OMEGAMON® monitoring agent products, consider the basic requirements for an installation or upgrade and the effects of a mixed-version environment on globalization and data presentation. For an upgrade, you must also decide which upgrade path to follow after considering these basic requirements.

The information in this section applies to the components of Tivoli Management Services installed on z/OS and to all the products in the OMEGAMON version 5.3.0 family of products. For an upgrade, this information makes the following assumptions:

- Version 4.2.0 or later of the OMEGAMON® monitoring agents that you want to upgrade are currently installed.
- The Tivoli Management Services components are being upgraded to V6.3.0 Fix Pack 2, or above.

You can find product-specific upgrade information in the following locations:

- Documentation for [IBM Tivoli Monitoring](#)
- Documentation for the OMEGAMON family of products: [OMEGAMON shared documentation](#)
- Technotes for each product on the [IBM® Software Support](#) website

You can use the Shopz website to order mainframe products and maintenance (also known as program temporary fixes or PTFs). The primary product fulfillment mechanism is physical media, but electronic CBPDOs (Custom-Built Product Delivery Offerings) are available. Maintenance is available on physical tape or electronically on the [Shopz](#) website (<https://www.ibm.com/software/shopzseries>).

For information about ordering products and maintenance through the Shopz website, see technote [Ordering Products and Maintenance Through Shop zSeries](#) (<https://www.ibm.com/support/docview.wss?uid=swg21225816>).

## Version requirements

IBM® OMEGAMON® monitoring agents require that IBM® Tivoli® Management Services (the framework) and common components be at a certain minimum version. The minimum level required depends on the version of the monitoring agent that you are installing.

A family is a group of products that have the same minimal FMID requirements and the same cross-product release features. The OMEGAMON® V5.5.0 family includes the following products:

- IBM OMEGAMON® for CICS® on z/OS® V5.5.0
- IBM Tivoli OMEGAMON® XE for Db2 Performance Expert on z/OS V5.4.0
- IBM Tivoli OMEGAMON® XE for Db2 Performance Monitor on z/OS V5.4.0
- IBM OMEGAMON® for Db2 Performance Expert on z/OS V5.5.0
- IBM OMEGAMON® for IMS on z/OS® V5.5.0
- IBM OMEGAMON® for Networks on z/OS V5.5.0
- IBM OMEGAMON® for Messaging on z/OS® V7.5.0
- IBM OMEGAMON® for Storage on z/OS® V5.5.0
- IBM OMEGAMON® for z/OS® V5.5.0
- IBM OMEGAMON® for JVM on z/OS® V5.4.0
- IBM® Z OMEGAMON for JVM on z/OS®, V5.5.0
- IBM OMEGAMON® Dashboard Edition on z/OS® V5.5.0

The following shared components are included in the packages for these agents:

HKOB750: OMNIMON Base

HKSB740: Shared Probes

The cross-product features include support for near-term history and cross-product embedded data in the OMEGAMON® Enhanced 3270 user interface, a minimum requirement for z/OS® V1.13 or higher, and support for PARMGEN configuration method only.

All members of the V5.5.0 family require that Tivoli® Management Services be at a minimum of version 6.3.0 Fix Pack 6 on z/OS.

Monitoring agents and the Tivoli® Enterprise Monitoring Servers that the agents report to must be at the same version and maintenance level of the framework. Upgrade the Tivoli® Data Warehouse components at the same time you upgrade the Tivoli® Enterprise Portal Server. If you are not enabling support for self-describing agents, you must also install application support for the highest level of each monitoring agent at the hub monitoring server, at the Tivoli® Enterprise Portal Server, and at the desktop client. For planning purposes, these upgrade paths require Tivoli® Management Services V6.3.0 Fix Pack 6 starting in April 2016. For more information, see the technote *Recommended Maintenance Service Levels for OMEGAMON and Tivoli Advanced Reporting products on ITM V6.x* (<https://www.ibm.com/support/docview.wss?uid=swg21290883>).

The required minimum version for common components are listed in “Current versions of OMEGAMON® monitoring agents and minimum required level of Tivoli® Management Services and common components” on page 166.

Upgrade requirements and release levels for OMEGAMON® Monitoring Agents.

Current® monitoring agent release	OMNIMON (Enhanced 3270UI - KOB)	End-to-End (KET)	Shared probes (KSB)
IBM OMEGAMON® for CICS® on z/OS® V5.5.0	V7.5.0	n/a	n/a
IBM Z® OMEGAMON® AI for Db2 V6.1.0	V7.5.0	n/a	n/a
IBM® OMEGAMON® for IMS™ on z/OS® V5.5.0	V7.5.0	n/a	n/a
IBM® OMEGAMON® for Networks on z/OS V5.5.0	V7.5.0	n/a	n/a
IBM OMEGAMON® for Messaging on z/OS® V7.5.0	V7.5.0	n/a	n/a
IBM® OMEGAMON® for Storage on z/OS® V5.5.0	V7.3.0	n/a	V7.4.0
IBM OMEGAMON® for z/OS® V5.5.0	V7.5.0	n/a	V7.4.0
IBM® OMEGAMON® Dashboard Edition on z/OS® V5.5.0	n/a	n/a	n/a
IBM® OMEGAMON® for JVM on z/OS® V5.4.0	V7.3.0	n/a	n/a

“Supported OMEGAMON® 550 family features” on page 166 lists the features supported by GA products.

Lists the current release for each agent and the features it supports

Current® Monitoring Agent Release	Enhanced 3270 user interface	Self-describing agents	Configuration method
IBM OMEGAMON® for CICS® on z/OS® V5.5.0	Yes	Yes	PARMGEN
IBM OMEGAMON® for Db2 Performance Expert on z/OS V5.5.0	Yes	Yes	PARMGEN
IBM OMEGAMON® for IMS™ on z/OS® V5.5.0	Yes	Yes	PARMGEN
IBM OMEGAMON® for Networks on z/OS® V5.5.0	Yes	Yes	PARMGEN

Current® Monitoring Agent Release	Enhanced 3270 user interface	Self-describing agents	Configuration method
IBM OMEGAMON® for Messaging on z/OS® V7.5.0	Yes	Yes <sup>1</sup>	PARMGEN
IBM OMEGAMON® for Storage on z/OS® V5.5.0	Yes	Yes	PARMGEN
IBM OMEGAMON® for z/OS® V5.5.0	Yes	Yes	PARMGEN
IBM OMEGAMON® for JVM on z/OS® V5.4.0	Yes	Yes	PARMGEN

All currently GA products support a staged upgrade with SDA, so long as the Tivoli® Management Services framework is at V6.2.3 Fix Pack 1 or higher. However, the OMEGAVIEW II for the Enterprise component of OMEGAMON® Dashboard Edition does not support SDA. If you are using this component, you must install its application support data manually. If you are not using the component, no agent application data is required.

## Basic upgrade requirements

Review the basic upgrade requirements.

Before you begin to upgrade your OMEGAMON products, any Tivoli Enterprise Monitoring Server (hub, remote, backup, and Hot Standby) that a monitoring agent reports to must be running at the prerequisite level. In addition, any agent and the Tivoli Enterprise Monitoring Server that it reports to must be running with the same level of IBM Tivoli Monitoring maintenance. All products in a runtime environment must use the same configuration method. If you are configuring multiple products, some of which require PARMGEN, you must use PARMGEN for all of the products.

Whenever you upgrade an OMEGAMON product or install PTF maintenance, the runtime environment libraries must be loaded to the upgraded maintenance level, at a minimum (which means that the PARMGEN KCIJPLOD load job must be run).

- If you are upgrading to IBM Z® OMEGAMON® AI for Db2 V6.1.0 in an existing PARMGEN runtime environment, to enable support for Db2 V12, you must manually add the following two parameters to the *rte\_plib\_hilev.rte\_name.WCONFIG(\$GBL\$USR)* profile:
  - GBL\_DSN\_DB2\_LOADLIB\_V12
  - GBL\_DSN\_DB2\_RUNLIB\_V12

To enable support for Db2 V13, you must manually add the following two parameters to the *rte\_plib\_hilev.rte\_name.WCONFIG(\$GBL\$USR)* profile:

- GBL\_DSN\_DB2\_LOADLIB\_V13
- GBL\_DSN\_DB2\_RUNLIB\_V13
- If you are upgrading to OMEGAMON for IMS V5.5.0, OMEGAMON for CICS V5.5.0, and OMEGAMON for z/OS V5.5.0, you must rerun the **KCIJPSEC** job as part of the upgrade.

**Note:** Regarding OMEGAMON for IMS, before you rerun **KCIJPSEC** job, you must take steps to enable the IMS related modules. For detailed information, see [Enabling the IMS version-related modules](#).

- New jobs are provided in OMEGAMON family version 5.5.0 to delete obsolete elements and runtime members. Consider running the following jobs based on your requirements.
  - The **KCIJPW1R** job. For staged upgrade planning, use the KCIJPW1R job to delete any obsolete runtime members that are no longer generated by the PARMGEN \$PARSE\* jobs for the product-specific deprecated functions (CUA-related product runtime members, Epilog-related product runtime members, and other obsolete functions) from the product-execution user libraries for each RTE to upgrade (RKANCMDU, RKANPARU, RKANSAMU, RKD2PAR, RKD2PRF and RKD2SAM), when the product started tasks are not in use.

**Note:** You do not have to delete these obsolete runtime members from the product execution user libraries (RK\* user) immediately after SMP/E upgrade and reconfiguration of the RTEs pointing to the upgraded SMP/E target datasets. The product started tasks upgraded and loaded with the latest OMEGAMON V5.5 code will continue to run and tolerate the obsolete runtime members. You can continue to use the KCIJPW2R "Copy runtime mbrs from WK\*->RK\* RW libraries" to refresh the RK\* user libraries after an upgrade following either the [SMPE04](#), [SMPE05](#), or [SMPE06](#) upgrade scenario.

- The standalone **KCIDELJB** job. A new DELRUN2 step is added to delete obsolete modules from the xKANMOD\* load libraries, obsolete Object Definition Information (ODI) files from the RTE's RKANDATV, obsolete panels from the read-only RKANWENU, and obsolete screen space from the read-only RKppPROC profile dataset, once PARMGEN detects that the minimum OMEGAMON version installed is V5.5.0/V7.5.0.  
The new handy standalone KCIDELJB job, which is the equivalent of the BUILDEX\*/DELRUN\* steps of the composite KCIJPLD job, is available for staged upgrades. Submit the KCIDELJB standalone job, which deletes obsolete elements in read-only runtime dataset copies of the %GBL\_TARGET\_HILEV%.TK\* SMP/E target datasets. Run this job when the started tasks are not running in order to do the clean-up.
- Some product components are not SDA enabled:
  - OMEGAVIEW for the Enterprise agents
  - Language packs
  - Tivoli Enterprise Portal desktop client.

Application support for these components must be installed manually.

- The GBL\_DSN\_GLOBAL\_SOURCE\_LIB parameter provides the flexibility in accommodating a common dataset that PARMGEN allocates to house globals from products that support KppGLB\* global data members. IBM recommends that you use the common globals dataset name. The current default is the RTE-specific %RTE\_HILEV%.%RTE\_NAME%.RKANPARU dataset for compatibility with OMEGAMON for CICS and OMEGAMON for IMS globals usage, but best practice is to use a common globals dataset that can be shared across different LPAR RTEs. The GBL\_DSN\_GLOBAL\_SOURCE\_LIB parameter is available for customization by adding the parameter in WCONFIG(\$GBL\$USR), if your \$GBL\$USR member existed prior to PARMGEN 2Q15 Interim Feature (APAR OA46817). Otherwise, the parameter is available in both WCONFIG(\$GBL\$IBM) IBM default global profile and in the WCONFIG(\$GBL\$USR) user global profile. To specify a more common global dataset rather than the default dataset value of the RTE's RKANPARU dataset, override the GBL\_DSN\_GLOBAL\_SOURCE\_LIB parameter value in WCONFIG(\$GBL\$USR).
- The GBL\_USS\_TKANJAR\_PATH parameter is used to change the TKANJAR DDDEF installation z/OS® UNIX® System Services directory. If your \$GBL\$USR member exists before PARMGEN 1Q16 Interim Feature (APAR OA48678), you must add the GBL\_USS\_TKANJAR\_PATH parameter in WCONFIG(\$GBL\$USR) before you can use it. If your \$GBL\$USR member is created after you apply PARMGEN 1Q16 Interim Feature (APAR OA48678) or later PARMGEN PTF maintenance, the parameter is available in both WCONFIG(\$GBL\$IBM) IBM default global profile and in the WCONFIG(\$GBL\$USR) user global profile.

Customize the GBL\_USS\_TKANJAR\_PATH parameter in WCONFIG(\$GBL\$USR), then follow the SMPenn maintenance scenario to reconfigure your RTE. For more information, see the **Maintenance Scenarios (Scenario SMPenn)** on-line help on the **PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU** or [SMP/E maintenance and upgrade scenarios](#).

If the products that have TKANJAR DDDEF requirement such as OMEGAMON for JVM (HKJJvuv FMID) or OMEGAMON for CICS TG (HKGWvuv FMID) is upgraded, or you are applying SMP/E maintenance to these products that updated the elements in the TKANJAR path, make sure that you rerun the PARMGEN KCIJPUSS job in the RTE\_PLIB\_HILEV.RTE\_NAME.WKANSAMU or RTE\_HILEV.RTE\_NAME.RKANSAMU dataset. Or you can submit these jobs from the "SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP" KCIP@SUB panel to refresh RTE\_USS\_RTEDIR/RTE\_NAME/kan/bin/IBM/\*.jar.

For more information about this parameter, see [GBL\\_USS\\_TKANJAR\\_PATH](#).

- The KCIJPLA autodiscovery job integrates with IBM® Discovery Library Adapter for z/OS® (DLA); DLA requires the SMP/E SMPTLOAD DDDEF statement.  
If you are upgrading from an older version of a product that does not support DLA, make sure that SMPTLOAD is defined in the CSI. Use the following sample job to define the SMPTLOAD DDDEF. Change all occurrences of the following lowercase variables to values suitable to your installation before submitting.

```

#globalcsi - The dsname of your global CSI.
#tzone - The name of the SMP/E target zone.
#dzone - The name of the SMP/E distribution zone.
//SMPTLOAD JOB 'ACCOUNT INFORMATION','SMPTLOAD',
// CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//
// D e f i n e D D D E F E n t r i e s
//
//SMPTLOAD EXEC PGM=GIMSMP,REGION=496K
//SMPCSI DD DISP=OLD,DSN=#globalcsi
//SMPCNTL DD
SET BDY(GLOBAL) .
UCLIN .
ADD DDDEF(SMPTLOAD) CYL SPACE(2,1) DIR(1)
UNIT(SYSALLDA) .
ENDUCL .
SET BDY(#tzone) .
UCLIN .
ADD DDDEF(SMPTLOAD) CYL SPACE(2,1) DIR(1)
UNIT(SYSALLDA) .
ENDUCL .
SET BDY(#dzone) .
UCLIN .
ADD DDDEF(SMPTLOAD) CYL SPACE(2,1) DIR(1)
UNIT(SYSALLDA) .
ENDUCL .
/*

```

**Tip:** You can run more than one version of an OMEGAMON® monitoring agent on the same z/OS® system, provided that the different versions of the monitoring agent report to different monitoring servers or have different started task names.

**Note:** Distributed fix packs are available through [IBM Support Fix Central \(https://www.ibm.com/support/fixcentral/\)](https://www.ibm.com/support/fixcentral/). You need an IBM registered ID to download fixes from this site and to enable IBM to update you about critical issues that are associated with fixes that you download. z/OS fixes continue to be available through IBMLINK or Shop zSeries. For OMEGAMON V5.1.0 and V5.3.0 products (with the exception of OMEGAMON for Messaging on z/OS) you no longer need to install the application support DVD before installing the distributed fix packs.

## Before you begin

You can eliminate roadblocks and ensure a smoother upgrade if you make sure that all requirements are met before you begin.

In addition to reviewing the Upgrade checklist, review the following requirements.

### Tivoli® Management Services components

Before you upgrade an OMEGAMON® monitoring agent, determine the current release levels of the Tivoli® Management Services components. To determine the required level, see [“Version requirements” on page 165](#). To determine the current level of components on z/OS®, compare the FMIDs associated with the following components to the FMIDs listed in the product program directory and the FMIDs listed in the SMP/E CSI whose agents you intend to upgrade. This information will help you determine which components must be updated.

- Tivoli® Enterprise Monitoring Server (FMID HKDS630)
- z/OS configuration tools, which are Parameter Generator (PARMGEN) Workflow user interface and Configuration Manager (FMID HKCI310)
- Tivoli® Management Services:Engine (TMS:Engine) (FMID HKLV630)

To find the current release levels of the components running on distributed systems, issue one of the following commands:

- On Windows™

```
\ibm\ITM\KinCInfo -i
```

- On Linux™ or UNIX™:

```
opt/ibm/ITM/BIN/cinfo -i
```

### Shared components

The shared components should be upgraded to the following levels:

- OMNIMON Base (including framework support for OMEGAMON® enhanced 3270 user interface and OMEGAMON® Subsystem): HKOB730
- Shared probes: HKSB730
- End-to-End Response Time Feature: HKET620

### Self-describing agent feature (SDA)

If you are running a Tivoli® Enterprise Monitoring Server on z/OS® and you are planning to enable SDA:

- Create HFS or zFS file system on z/OS® UNIX™ System Services. The file system must be mounted before you upgrade. You will need to provide the path to this directory during configuration. The file system must be large enough to support all the jar files delivered by the z/OS® agents:
  - Hub monitoring server: approximately 3.25 MB per agent
  - Remote monitoring server: approximately 2 MB per agent
- The z/OS UNIX system where you create these files system must have access to a Java™ Runtime Environment running under IBM's 31-bit or 64-bit Java™ SDK Version 6 (or later) and an HFS or zFS file system.
- Ensure proper authorization has been set for the person who will run the jobs that add the subdirectories for the application support files.

To use SDA to upgrade your monitoring agents, SDA must be enabled and successfully started on the hub monitoring server, any remote monitoring server the monitoring agent reports, and the Tivoli® Enterprise Portal, if used. You can check the status of SDA by using tacmd or looking in your monitoring server JESS message log for the following message: KFASD009 Self-Describing Agent feature enabled on local TEMS.

See [Configure a Tivoli Enterprise Monitoring Server](#) for more details on these requirements. For more information on enabling the self-describing agent capability, see “Self-describing agent feature” on page 135 and the [IBM Tivoli Monitoring: Administrator's Guide](#).

The following components do not support SDA. Application support for these components must be installed manually using the application support DVD.

- OMEGAVIEW for the Enterprise agents
- Language Packs
- Tivoli® Enterprise Portal desktop client

### OMEGAMON® enhanced 3270 user interface

If you will be configuring the OMEGAMON® enhanced 3270 user interface, define an OMVS segment for the started task (IBMTOM by default).

**Note:** As of z/OS® V2R1, the ability to use default OMVS segments has been removed. All z/OS® UNIX™ users or groups must now have OMVS segments defined for user and group profiles with unique user IDs (UIDs) and group IDs (GIDs). One solution is the use of RACF® support to automatically generate unique UIDs and GIDs on demand for users and groups that do not have OMVS segments defined. Support for automatic unique UID and GID generation has been available since z/OS® V1R11.

If you want to enable the Memory Display/Zap feature in the OMEGAMON® enhanced 3270 user interface with the OMEGAMON on z/OS product, you must assign a RACF ID to the enhanced 3270 user interface and authorize the ID to be able to generate PassTickets. See the section [Security](#) in the OMEGAMON enhanced 3270 user interface reference guide. Additional security definitions are also required for the OMEGAMON on z/OS product to enable the Memory List/Zap feature. See the OMEGAMON for z/OS Planning and Configuration Guide for more information.

### SDA and enhanced 3270 user interface

Before you begin an upgrade, if your RKANDATV library was not already converted to a PDSE, you must reallocate it as a PDSE. This change accommodates product features that allow the product started tasks to dynamically create or write multiple members into RKANDATV at product startup, and to ensure that the started tasks are allowed to write into RKANDATV. To reallocate the library as a PDSE, delete it, then run the PARMGEN allocation job as part of the upgrade configuration.

If SDA support is enabled and you are configuring a high-availability hub, do not configure the OMEGAMON® enhanced 3270 user interface in the same runtime environment as the hub. Configure the OMEGAMON® enhanced 3270 user interface in its own runtime environment or in a runtime environment that has a remote monitoring server and monitoring agents configuring in it.

If the OMEGAMON® enhanced 3270 user interface is not installed in the same SMP/E CSI as the other OMEGAMON products, you will have to maintain your environment manually by copying the updated application support files from the agent, monitoring server, and portal server libraries into the OMEGAMON® enhanced 3270 user interface environment. You must then recycle the OMEGAMON® enhanced 3270 user interface started task to include the updates.

### **High-availability hub monitoring server**

If you will be configuring a high-availability (HA) hub monitoring server, set up a dedicated dynamic virtual IP address (DVIPA). Allow enough time to reconfigure existing static hub to a remote and reconfigure all remotes to connect to the HA hub.

### **Integrated Cryptographic Security Facility**

If any of the following conditions are in effect, the Integrated Cryptographic Security Facility started task must be running:

- Components will use password encryption.
- The SOAP server will be enabled on a remote monitoring server
- Granular control of command requests will be enabled (**KMS\_SECURITY\_COMPATIBILITY\_MODE=N**)
- The zAware feature will be configured for OMEGAMON® for z/OS®.

### **Persistent data store**

If your persistent data store has not been reconfigured from 3 files to 6, delete your persistent data store files and your RppSGRP\* files prior to the upgrade so that they can be reallocated as part of the upgrade configuration process by rerunning the \$PARSE and KCIJPALO jobs.

### **Variables**

If the runtime environment is enabled for variables, started tasks generate a required symbolic substitution step that allocates temporary data sets to perform the variables resolution processing. If you are enabling variables, ensure that enough space is allocated to your temporary space volume to accommodate the TMP\* DD processing.

## **Products in a mixed environment**

Support for multiple versions of an agent that run in the same environment is provided to support a staged upgrade. However, you should be aware of certain issues while you are working with a mixed environment.

### **Tivoli® Enterprise Portal user interface**

Product information in the Tivoli Enterprise Portal reflects the level of support for applications that are installed on the portal server, not the version of the monitoring agent. After you install support on the portal for V5.3.0 monitoring agents, you will see accurate workspace and attribute information for the monitoring agent. However, for prior versions of the monitoring agents, you might see potentially misleading information in flyovers, full-text help, and information that is provided in the situation editor.

You can use the predefined dynamic workspace links provided by V5.3.0 agents to link to the workspace of a OMEGAMON® at an earlier version if the target workspace exists in that version of the product. If the target workspace does not exist, you receive the KFWITM081E message.

In cases where the target workspace has been modified (for example, to accept link parameters to limit the data that is displayed) you might notice different behavior when you upgrade the target product to V5.3.0.

### **OMEGAMON® enhanced 3270 user interface**

The current release of the enhanced 3270 user interface does not support SDA processing. If the enhanced 3270 user interface is configured in the same runtime environment as the hub address space and you plan to

upgrade with an OMEGAMON® agent that is not configured in this same runtime environment, it is suggested that you run the configuration load processing for both the runtime environment that contains the agent and the runtime environment that contains both the interface and the hub monitoring server and recycle the interface address space.

The OMEGAMON enhanced 3270 user interface does not support releases of OMEGAMON® earlier than V5.1. Although some of the OMEGAMON® V4.2.0 agents return data that is viewable in the new 3270 user interface, only the displayed data that is returned by the OMEGAMON® V5.1.\* and V5.3.0 monitoring agents is supported.

Users of the enhanced 3270 user interface can experience operational limitations when they are running configurations that run multiple versions of OMEGAMON® agents during a staged upgrade period. [“Operation issues for the enhanced 3270 user interface during a staged upgrade” on page 172](#) summarizes related operational considerations by product. For more information about limitations, consult the product configuration and upgrade documentation. Not all new features introduced in V5.3.0 releases will display data for prior agent versions.

Summarizes operations considerations for enhanced 3270 user interface users during a staged upgrade by product.

<i>Table 22: Operation issues for the enhanced 3270 user interface during a staged upgrade</i>	
<b>Product version that provides enhanced 3270 interface support</b>	<b>Operational considerations with multiple agent versions running</b>
OMEGAMON® for CICS® on z/OS® V5.3.0	Only data that is returned from OMEGAMON® for CICS® V5.1.0 and V5.3.0 agents is displayed in the enhanced 3270 user interface. Data that is returned from the V4.2.0 agents can be viewed from one of the other available interfaces: Tivoli Enterprise Portal, OMEGAMON® for CICS®, or OMEGAMON® II for CICS®.
OMEGAMON® XE for Db2® Performance Expert on z/OS® V5.4.0 OMEGAMON® XE for Db2® Performance Monitor on z/OS® V5.4.0	Only data that is returned from OMEGAMON® Db2® V5.1.1, V5.2.0, V5.3.0, and V5.4.0 agents is displayed in the enhanced 3270 user interface. Data that is returned from V5.1.0 and V4.2.0 agents can be viewed from one of the other available interfaces.
OMEGAMON® for IMS™ on z/OS® V5.3.0	Only data that is returned from OMEGAMON® for IMS™ V5.1.0 and V5.3.0 agents is displayed in the enhanced 3270 user interface. Data that is returned from the V4.2.0 agents can be viewed from one of the other available interfaces: Tivoli® Enterprise Portal, OMEGAMON® for IMS™ or OMEGAMON® II for IMS™.
OMEGAMON® for Networks V5.3.0	The enhanced 3270 user interface for OMEGAMON® for Mainframe Networks is designed to display data from V5.1.0 and later agents. Continue to use the Tivoli Enterprise Portal to view data from V4.2.0 agents.
OMEGAMON® for Storage on z/OS® V5.4.0	The enhanced 3270 user interface displays only data from V5.1.0, V5.2.0, V5.3.0, and V5.4.0 Storage agents. Data from prior versions is ignored in the interface.
OMEGAMON® for z/OS® V5.3.0	The product must be configured so that only V5.1.0, V5.1.1, or V5.3.0 agents are eligible to assume the sysplex proxy role. Otherwise, sysplex data is not available in the enhanced 3270 user interface until all OMEGAMON® for z/OS® monitoring agents are upgraded to version 5.3.0.

### **Incompatibility of V4.2.0 agents and native 64-bit monitoring servers**

Tivoli Management Services on z/OS® V6.3.0 and higher supports monitoring servers on native 64-bit Windows™ and xLinux systems. The IBM® Tivoli® OMEGAMON® V5.1.0 (or higher) family (including OMEGAMON® XE for Db2® PE/PM V5.1.1 and OMEGAMON® for Messaging for z/OS V7.1.0) supports the native 64-bit monitoring server. The OMEGAMON® V4.2.0 family (including OMEGAMON® XE for Db2® PE/PM V5.1.0 and OMEGAMON®

for Messaging for z/OS V7.0.1) supports only monitoring servers that run on 64-bit Windows™ and 64-bit Linux™ platforms that use 32-bit compatibility mode with IBM® Tivoli® Monitoring V6.2.3. If you are installing or upgrading a hub monitoring server on native 64-bit Windows™ and xLinux systems, the metaprobes that collect plex data for the following V4.2.0 family products are disabled until the products are upgraded to the V5.1.0 or above family versions:

- OMEGAMON® XE for Db2® Performance Expert V4.2.0, V5.1.0
- OMEGAMON® XE for Db2® Performance Monitoring V4.2.0, V5.1.0
- OMEGAMON® for z/OS® V4.2.0
- OMEGAMON® for Messaging for z/OS® V7.0.x

### Globalization of interfaces

User interfaces for OMEGAMON® V4.2.0 and later monitoring agents are globalized, with the following exceptions:

- z/OS configuration tools, which are the Parameter Generator (PARMGEN) Workflow user interface and also Configuration Manager.
- Installation program
- OMEGAMON enhanced 3270 user interface
- OMEGAMON II (CUA) interface
- OMEGAMON (3270) interface

OMEGAMON® V4.2.0 (or later) workspaces in the Tivoli Enterprise Portal are displayed in the specified language (for example, Spanish or Chinese).

## Autonomous agent support

Tivoli Management Services V6.2.3 (and higher) allows stand-alone monitoring agents (those that are configured in their own address spaces) to run in *autonomous mode* (without communicating directly with a monitoring server). An autonomous agent can emit Simple Network Management Protocol (SNMP) traps and Event Integration Facility (EIF) events directly to an event server for agent-specific situations (but not for enterprise situations). Autonomous agents can be advantageous in environments where disk space or transmission bandwidth is in short supply.

An autonomous agent requires the DSEVT DDNAME in the monitoring agent started task in *rhilev.rte.RKANSAMU*. This DDNAME points to the *rvhilev.rte.RKDSEVT* data set.

The [IBM Tivoli Monitoring: Installation and Setup Guide](#) provides instructions for configuring IBM® Tivoli® Netcool®/OMNIBus ObjectServers to receive the events. For information on specifying which situation events to forward, see the Tivoli Enterprise Portal online help and the [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#). For detailed information about managing autonomous agents, see “Agent autonomy” in the [IBM Tivoli Monitoring: Administrator's Guide](#).

## Tivoli Management Services V6.3.x component interoperability

If you are doing a staged upgrade, it is important to know what framework components are interoperable at different version levels.

For up-to-date statements on interoperability, see [IBM Tivoli Monitoring coexistence and interoperability](#).

---

# Installing

Review information about installing Tivoli Management Services on z/OS.

The *Program Directory for IBM Tivoli Management Services on z/OS* provides information about the material and procedures associated with the installation of the framework shared by the OMEGAMON monitoring products.

Before installing Tivoli Management Services on z/OS, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and the *Program Directory*; then keep them for future reference.

Tivoli Management Services on z/OS consists of the following FMIDs:

- HKDS630
- HKCI310
- HKLV630

**For more information:**

- See [Program Directory for IBM Tivoli Management Services on z/OS 6.4.0](#).
- For installation instructions for Tivoli Management Services component on distributed systems, see the [IBM Tivoli Monitoring Installation and Setup Guide](#).
- For installation instructions for individual products, see the *Program Directory* for each product being installed. For links to these documents, see [“Program Directories” on page 190](#).

---

## Job Generator (JOBGEN) utility

Job Generator is a job-generation utility that can generate the necessary installation jobs for products that use Tivoli® Management Services on z/OS®.

The OMEGAMON® products share a great deal of base code in common libraries. This shared code makes the suite somewhat unique and more complex than many other IBM® products. For example, you need to go through all the program directories and understand how much DASD each product needs in the common libraries and allocate (or reallocate) them accordingly. The JOBGEN utility is available to generate the necessary installation jobs for products that use Tivoli® Management Services on z/OS®. The JOBGEN utility automatically handles proper data set allocation due to its ability to scan current data sets and analyze them for adequate space to install the selected products. The JOBGEN utility also provides a compiled list of hold data that you can review in one place for all products together.

The JOBGEN utility is delivered in the z/OS Installation and Configuration Tool component of the Tivoli Management Services on z/OS product and is enhanced through the maintenance stream.

**Important:** Before using JOBGEN, ensure that the latest maintenance is installed for FMID HKCI310 to get the latest updates for the JOBGEN product selection table.

If you are installing for the first time into a new environment and do not have an existing environment available to invoke the JOBGEN utility, use the sample jobs for the Tivoli® Management Services on z/OS® product and install it first. This will install the FMID containing the JOBGEN utility and the latest maintenance. Then you can invoke the utility from the target library TKANCUS to install other products in the package.

You can invoke the JOBGEN utility from the SMP/E target library with the low-level qualifier of TKANCUS. After you locate the TKANCUS file, launch the utility by using ISPF option 6 and entering the following command.

```
ex '&gbl_target_hilev.TKANCUS'
```

Select option 2, **Installation Workflow: SMP/E-install z/OS products with Install Job Generator (JOBGEN)**, from the z/OS Installation and Configuration Tool main menu.

You can use the available online help as a tutorial to become familiar with the utility and its processes, and you can also follow the step-by-step case scenarios that are provided in the following topics. These case scenarios

provide guidance on how to use the JOBGEN utility to create a new SMP/E environment with a few products installed, and to install additional products in an existing SMP/E environment.

For more information about using JOBGEN, see [Program Directory for IBM Tivoli Management Services on z/OS 6.4.0](#).

### The JOBGEN utility process

The following figure provides a simplified view and guidance on how the JOBGEN utility can be used to create a new SMP/E environment or install products into an existing SMP/E environment. The cases identified in the boxes marked [1] and [2] will be described in detail in the following topics.

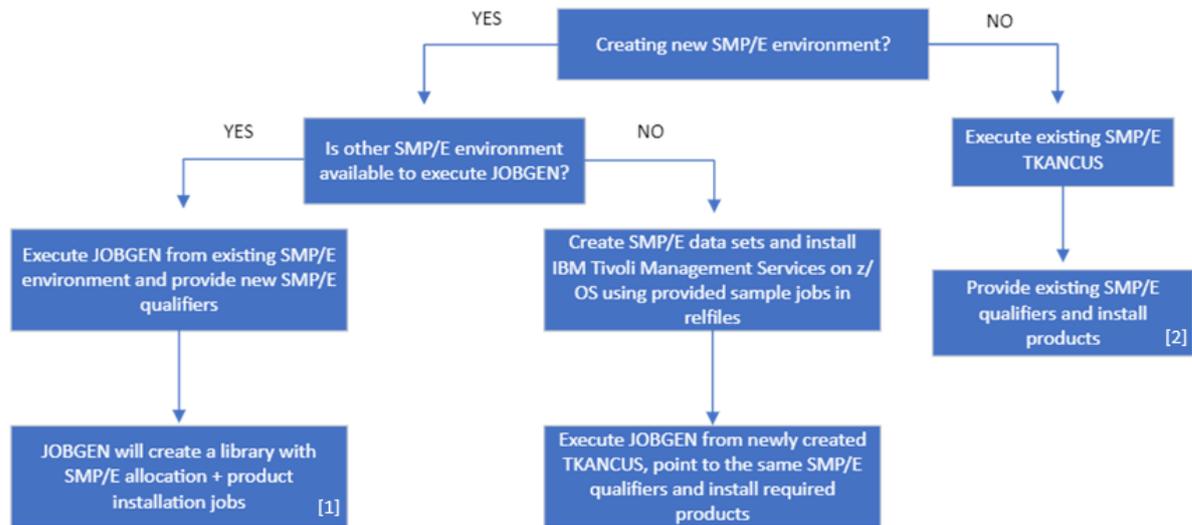


Figure 11: The JOBGEN process

[“Case 1: Create a new SMP/E environment and install products with JOBGEN” on page 175](#)

[“Case 2: Install additional products in an existing SMP/E environment with JOBGEN” on page 181](#)

## Case 1: Create a new SMP/E environment and install products with JOBGEN

Use this step-by-step guide to create a new SMP/E environment and install a couple of products to it using the Job Generator (JOBGEN) utility.

### Before you begin

Review the diagram in [“The JOBGEN utility process” on page 175](#).

This example assumes that there is an existing SMP/E environment available that can be used to launch the JOBGEN utility. If there is no existing SMP/E environment, you must manually install IBM Tivoli Management Services on z/OS first, using sample jobs provided in the product RELFILES. For more information, see [Program Directory for IBM Tivoli Management Services on z/OS 6.4.0](#).

After installing the FMID containing the JOBGEN utility, JOBGEN can be invoked from the target library TKANCUS to install other products.

### About this task

Complete the following steps to create a new SMP/E environment and install products using JOBGEN.

### Procedure

1. Invoke the JOBGEN utility, as follows:
  - a. Enter the following command for the TKANCUS library from the existing SMP/E environment:

```

Menu Options View Utilities Compilers Help
DSLIST - Data Sets Matching TDCI.ZSMS21R.SMPE.TKANCUS Row 1 of 1
Command ==> Scroll ==> CSR
-----
Command - Enter "/" to select action Message Volume
-----
ex TDCI.ZSMS21R.SMPE.TKANCUS DVLK10
***** End of Data Set list *****

```

- b. Select option 2, **Installation Workflow: SMP/E-install z/OS products with Install Job Generator (JOBGEN)**, from the z/OS Installation and Configuration Tool main menu:

```

KCIPQPGW
Welcome to the z/OS Installation and Configuration Tools for
z Systems Management Suites

Option ==> 2
1. Checklist: System preparation checklists
Tip: Read/Print Checklists prior to installation and configuration.
2. Installation Workflow:
SMP/E-install z/OS products with Install Job Generator (JOBGEN)
Conditional: JOBGEN is not required when using SystemPac or ServerPac.
3. Configuration Workflow (Post-installation):
Configure z/OS products with Parameter Generator Workflow (PARMGEN)
I. What's New in PARMGEN? <=== Revised

Maintenance Level: HKCI310 2Q23 OA64598 PTF
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```

2. Provide the JOBGEN output PDS where you want the jobs to be created:

```

KCIPJG00 ----- INSTALL JOB GENERATOR (JOBGEN) - WELCOME -----
Command ==>

Welcome to the Install Job Generator (JOBGEN). This routine will
generate batch jobs to create and update an SMP/E environment.

Processing will be done in the following steps requiring user input.
(1) Select the products for installation into an SMP/E environment.
(2) Enter values for data set allocation and SMP/E processing.
(3) Enter values for HFS/zFS or CALLLIBS processing when required.

All information will be saved into an output PDS. Restarting the
processor with this PDS will cause the values to be reinstalled on
each panel. For this reason, a positive response will be required
to accept values and selections.

Enter the fully qualified PDS name and output location for the generated jobs.
JOBGEN output library (workfile repository) Volser  STORCLAS  MGMTCLAS
TDCI.JOBGEN.RUN1
Enter=Next F1=Help F3=Back

```

3. Select the products that you want to install. In this example, a new SMP/E environment will be created, so select **IBM Tivoli Management Services on z/OS** as well:

```

KCIPJG02 ----- Job Generator - Product Selection --- Row 1 to 33 of 33
Command ==>

Select (S) the products to be included from the install media. The list
below is the list of all supported products and might have entries for
products that are not available. Be sure to select only products
that exist for this install.

You must select (S) at least one product.
To add additional products, type UPDATE on the command line and hit ENTER.

Verify your selections and change this field to accept ==> Y (Y, N)

_ Clear all product selections (X)

Sel Product Description                                     Version
--
IBM Advanced Archive for DFSMSHsm                          V1.1.0
IBM Cloud Tape Connector for z/OS                          V1.1.0
IBM Discovery Library Adapter for z/OS                       V3.2.0
IBM OMEGAMON for z/OS                                       V5.5.0
IBM OMEGAMON for CICS on z/OS                               V5.5.0
IBM OMEGAMON for Db2 Performance Expert on z/OS             V5.5.0
IBM OMEGAMON for IMS on z/OS                                V5.5.0
IBM OMEGAMON for Messaging on z/OS                          V7.5.0
IBM OMEGAMON for Networks on z/OS                           V5.5.0
IBM OMEGAMON for Storage on z/OS                            V5.5.0
IBM OMEGAMON Dashboard Edition on z/OS                       V5.5.0
IBM Tivoli Advanced Allocation Management for z/OS           V3.3.0
IBM Tivoli Advanced Audit for DFSMSHsm                      V2.6.0
IBM Tivoli Advanced Backup and Recovery for z/OS             V2.4.0
IBM Tivoli Advanced Catalog Management for z/OS              V2.6.0
IBM Tivoli Advanced Reporting and Management for DFSMSHsm    V2.6.0
IBM Tivoli Advanced VSAM Manager for z/OS                    V2.6.0
IBM Tivoli Automated Tape Allocation Manager for z/OS        V3.3.0
IBM Tivoli Decision Support for z/OS                         V1.8.1
IBM Tivoli Discovery Library Adapter for z/OS                 V3.1.0
IBM Tivoli Management Services on z/OS                       V6.3.0
IBM Tivoli OMEGAMON Dashboard Edition on z/OS                 V5.3.0
IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS    V5.4.0
IBM Tivoli OMEGAMON XE for DB2 Performance Monitor on z/OS  V5.4.0
IBM Tivoli Tape Optimizer for z/OS                           V2.2.0
IBM Z OMEGAMON for CICS                                       V5.6.0
IBM Z OMEGAMON for JVM                                         V5.5.0
IBM Z OMEGAMON Integration Monitor                           V5.6.0
IBM Z OMEGAMON Monitor for z/OS                              V5.6.0
IBM Z OMEGAMON Network Monitor                               V5.6.0
IBM Z OMEGAMON Runtime Edition for JVM                       V5.5.0
ITCAM for Application Diagnostics on z/OS                    V7.1.0
ITCAM for Application Diagnostics on z/OS                    V7.1.1
Enter=Next F1=Help F3=Back F7=Up F8=Down

```

4. Specify the required information in the panel:

```

KCIPJG01 ----- Job Generator - Parameters -----
Command ==>

Verify your entries and change this field to accept ==> Y (Y, N)

Specify SMP/E CSI and data set information.
1 SMP/E zone names: Target ==> KDSTRG Distribution ==> KDSDLB
SMP/E OPTIONS name ==> DEFOPT SMPTLIB volser ==> TSP100
DSPREFIX value ==> TDCI.NEWSMP.DS

Data set High-Level Qualifier Volser STORCLAS MGMTCLAS
2 SMP/E TDCI.NEWSMP TSP100
Target TDCI.NEWSMP TSP100
DLIB TDCI.NEWSMP TSP100

Specify jobcard and member name information.
Generated name prefix ==> KCIJG
3 //&JGJOBN JOB 'ACCOUNT INFORMATION', '&ZUSER',
CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID
JOB CARD

Enter=Next F1=Help F3=Back

```

1 – Specify the names of the target and distribution zones and the global zone OPTIONS section, as well as the data set prefix for the SMPTLIB data sets that will be allocated for the RELFILES. You must also supply the SMPTLIB volume serial number, which will be used for the SMPTLIB DDDEF entry.

2 – Specify high-level qualifiers for the SMP/E data sets and the target and distribution zone data sets. You must also specify at least one of the Volser, STORCLAS, or MGMTCLAS entries. If the target or distribution zone entries are left blank, they will be propagated from the prior panel row.

3 – (Optional) Change the generated name prefix (1-5 characters) that will be used to name the generated jobs to install the selected products. You can also specify the jobcard information in the four lines that are available.

5. Provide the input location of the selected products. Only one input media type is allowed at a time. In this example, the DASD input RELFILE hilev is provided. (This is the high-level qualifier preceding IBM, which already exists on the disk):

```

KCIPJG05 ----- Job Generator - Media Informat "UP      " is not active
Command ==>>>

Verify your entries and change this field to accept ==> Y (Y, N)
Specify values for only one input media type.

TAPE:
  unit name ==> _____
  serial numbers ==> _____

DASD:
  Input Relfile hilev ==> TDSHR.PKG _____

Downloaded PAX files:
  Package ID ==> _____ (for the FROMNTS operand)
  SMPNTS Path Root ==> _____

Enter=Next F1=Help F3=Back

```

6. If a z/OS UNIX System Services (z/OS UNIX) install environment is required by any of the selected products, the USS Install Path panel is presented. Provide the z/OS UNIX install root directory. It must start with a forward slash (/) and is case sensitive. This directory will be the mount point of the HFS/zFS file system that will be used for installation:

```

KCIPJG04 ----- Job Generator - USS Install Path -----
Command ==>>>

Verify your entry and change this field to accept ==> Y (Y, N)

Enter the root directory for your USS install environment so the
pathname can be defined in the target zone.

USS Install root directory ==> /proj/tdci2/newsmp_____

Enter=Next F1=Help F3=Back

```

7. Remove the asterisks and/or modify the provided model CALLLIBS data sets according to your shop standards:

```

KCIPJG03 ----- Job Generator - CALLLIBS Selection -- Row 1 to 12
Command ==>>>

Enter the CALLLIBS data set names for SMP/E target zone definitions.
Entries beginning with an asterisk are models. Remove the asterisk
and use or modify the entry to enable the data set name.

Verify your entries and change this field to accept ==> Y (Y, N)

DDname      Description
-----
CSSLIB      MVS callable services
Data set    name ==> SYS1.CSSLIB
SCCNOBJ     XL C Compiler object library
Data set    name ==> CBC.SCCNOBJ
SCEEBND2    LE/370 C spt - XPLINK LP64 library
Data set    name ==> CEE.SCEEBND2
SCEECPP     LE/370 C spt - CPP class library
Data set    name ==> CEE.SCEECPP
SCEELIB     LE/370 C spt - side-deck library
Data set    name ==> CEE.SCEELIB
SCEELKED    LE/370 C spt - non-XPLINK, short names
Data set    name ==> CEE.SCEELKED
SCEELKEX    LE/370 C spt - non-XPLINK, long names
Data set    name ==> CEE.SCEELKEX
SCEERUN     LE/370 C spt - dynamic routines
Data set    name ==> *CEE.SCEERUN
SCEERUN2    LE/370 C spt
Data set    name ==> *CEE.SCEERUN2
SCLBSID     XL C/C++ - side-deck library
Data set    name ==> *CBC.SCLBSID
SCSFSTUB    ICSF services
Data set    name ==> *CSF.SCSFSTUB
SEZACMTX    TCP/IP libraries - Load
Data set    name ==> *EZA.SEZACMTX
Enter=Next F1=Help F3=Back F7=Up F8=Down

```

After you confirm your choice, JOBGEN starts generating installation jobs.

8. Wait for JOBGEN to complete the generation of the installation jobs, and monitor the return codes. A successful JOBGEN run returns RC = 0. If there are any mistakes in the setup process that JOBGEN can recognize, it will issue RC = 8 and errors will be printed in the KCIJGLOG member:

```

KCIRJG01 - I Starting 10 May 2023 08:48:54
KCIRJG01 - I End of EXEC, RC = 0
KCIRJG05 - I
KCIRJG05 - I Installation jobs created successfully in
KCIRJG05 - I TDCI.JOBGEN.RUN1
KCIRJG05 - I Please review the log member, KCIJGLOG.
KCIRJG05 - I
***

```

9. Review the content in log member KCIJGLOG in the JOBGEN output library. It contains all the information about the generated jobs and indicates the order in which they must be submitted. This member also contains a summary of the parameters that were provided in the JOBGEN panels, a list of the products selected and their FMIDs, as well as information about the data sets that will be created, DDDEFs, and so on. In this scenario, a new SMP/E environment is created and new SMP/E qualifiers for CSI, target, and distribution libraries were provided; therefore, jobs KCIJGSMA and KCIJGSMI were created. These members contain JCL to allocate basic SMP/E data sets, and to allocate and initialize CSI and global, target, and distribution zones.

```

Menu  Functions  Confirm  Utilities  Help
VIEW  TDCI.JOBGEN.RUN1
Command ==>

```

Name	Prompt	Size	Created
KCIDJG00			
KCIDJG05		28	2023/05/10
KCIJGACC		83	2023/05/10
KCIJGALO		567	2023/05/10
KCIJGAPP		83	2023/05/10
KCIJGBDI		53	2023/05/10
KCIJGDDE		572	2023/05/10
<b>KCIJGLOG</b>		386	2023/05/10
KCIJGREC		87	2023/05/10
KCIJGSMA		73	2023/05/10
KCIJGSMI		249	2023/05/10

```

**End**

```

```

VIEW  TDCI.JOBGEN.RUN1(KCIJGLOG) - 01.00  Columns 00001 00080
Command ==>  Scroll ==> CSR
***** Top of Data *****
000001
000002 AFTER REVIEWING THE INFORMATION IN THIS LOG, SUBMIT THE JOBS SHOWN
000003 BELOW IN THE ORDER INDICATED.
000004
000005           B a t c h   J o b s
000006
000007 The following members of
000008 TDCI.JOBGEN.RUN1
000009 should be submitted and executed in the order presented below.
000010
000011 Member
000012 Name      Description
000013 -----
000014 KCIJGSMA  Allocate basic SMP/E data sets
000015           The data sets are required for running SMP/E but they
000016           are not component oriented.
000017
000018 KCIJGSMI  Allocate and initialize the CSI
000019           The CSI is defined using IDCAMS and the basic controls
000020           are added to the GLOBAL, target, and distribution zones.
000021           The JCL will have an SMPPTS pointer to the data set
000022           allocated by the previous step.
000023
000024 KCIJGALO  Allocate required data sets
000025           This job will allocate any new data sets with the
000026           correct space requirements.
000027
000028           Existing data sets are examined by the space analysis
000029           job and a report is produced to alert users about any
000030           additional space requirements requiring action.
000031
000032
000033

```

10. To create a new SMP/E environment and install products into it, submit the jobs in the order presented in KCIJGLOG. Every job contains a comprehensive comment section with the function of the job and additional notes. This section briefly describes all the jobs in the order that they should be submitted:
- a. KCIJGSMA – This job allocates six SMP/E libraries for the new SMP/E environment:

```

VIEW          TDCI .JOBGEN .RUN1(KCIJGSM) - 01.00
Command ==>
000035 //*****
000036 //SMPLOG DD DSN=TDCI .NEWSMP .SMPLOG ,
000037 //        SPACE=(TRK,(15,300)),
000038 //        DISP=(NEW,CATLG,DELETE),
000039 //        UNIT=SYSALLDA,
000040 //        VOL=SER=TSP100,
000041 //        DCB=(LRECL=510,RECFM=VB,BLKSIZE=0)
000042 //SMPPTS DD DSN=TDCI .NEWSMP .SMPPTS,
000043 //        SPACE=(TRK,(15,150,220)),
000044 //        DISP=(NEW,CATLG,DELETE),
000045 //        UNIT=SYSALLDA,
000046 //        VOL=SER=TSP100,
000047 //        DSNTYPE=LIBRARY,
000048 //        DCB=(RECFM=U,BLKSIZE=32760)
000049 //SMPMTS DD DSN=TDCI .NEWSMP .SMPMTS,
000050 //        SPACE=(TRK,(15,150,220)),
000051 //        DISP=(NEW,CATLG,DELETE),
000052 //        UNIT=SYSALLDA,
000053 //        VOL=SER=TSP100,

```

- b. KCIJGSMI – This job defines and initializes the SMP/E CSI as well as the global, target, and distribution zones. The DEFINE statement for the CSI and the DDDEF statement for the SMPDLIB data set include the VOLUME(xxxxxx) parameter that was required to be provided in the JOBGEN panel. If the data sets are SMS-managed, the VOLUME lines can be deleted from the JCL before submitting the job:

```

VIEW          TDCI .JOBGEN .RUN1(KCIJGSMI) - 01.00
Command ==>
000033 //DEFCSI1 EXEC PGM=IDCAMS
000034 //SYSPRINT DD SYSOUT=*
000035 //SYSIN DD *
000036 DEFINE CLUSTER(NAME(TDCI .NEWSMP .CSI) -
000037                FREESPACE(20 5)
000038                KEYS(24 0)
000039                RECORDSIZE(24 143)
000040                SHAREOPTIONS(2,3)
000041                VOLUME(TSP100)
000042                )
000043 DATA(NAME(TDCI .NEWSMP .CSI .DATA) -
000044        CONTROLINTERVALSIZE(8192)
000045        CYLINDER(20,20))
000046 INDEX(NAME(TDCI .NEWSMP .CSI .INDEX) -
000047        CONTROLINTERVALSIZE(4096)
000048        TRACK(15 1))
000049 /*
000050 //PRIMCSI2 EXEC PGM=IDCAMS
000051 //SYSPRINT DD SYSOUT=*
000052 //SMPCSI DD DSN=TDCI .NEWSMP .CSI,DISP=SHR
000053 //ZPOOL DD DSN=SYS1.MACLIB(GIMZPOOL),DISP=SHR
000054 //SYSIN DD *
000055 REPRO OUTFILE(SMPCSI) INFILE(ZPOOL)

```

```

VIEW          TDCI .JOBGEN .RUN1(KCIJGSMI) - 01.00
Command ==>
000102 SYSOUT(*)
000103 ADD DDDEF(SMPLOG)
000104 DA(TDCI .NEWSMP .SMPLOG)
000105 MOD
000106 ADD DDDEF(SMPPTS)
000107 DA(TDCI .NEWSMP .SMPPTS)
000108 SHR
000109 ADD DDDEF(SMPDLIB)
000110 UNIT(SYSALLDA)
000111 VOLUME(TSP100)
000112 ENDUCL

```

- c. KCIJGALO – This job allocates target and distribution libraries for the selected products. In this job, you can also find the VOLUME setting that was provided in the JOBGEN panels. If the data sets are SMS-managed, the VOLUME lines can be deleted from the JCL before submitting the job:

```

VIEW          TDCI.JOBGEN.RUN1(KCIJGALO) - 01.00
Command ==>
000033 //*****
000034 //ALLOC      EXEC PGM=IEFBR14
000035 //*
000036 //* ALLOCATE TARGET LIBRARIES
000037 //*
000038 //SIZDEXEC DD DSN=TDCI.NEWSMP.SIZDEXEC,
000039 //              UNIT=SYSALLDA,
000040 //              VOL=SER=TSP100,
000041 //              SPACE=(TRK,(30,3,132)),
000042 //              DCB=(RECFM=FB,LRECL=80,BLKSIZE=0),
000043 //              DISP=(NEW,CATLG)
000044 //*
000045 //SIZDINST DD DSN=TDCI.NEWSMP.SIZDINST,
000046 //              UNIT=SYSALLDA,
000047 //              VOL=SER=TSP100,
000048 //              SPACE=(TRK,(30,1,132)),
000049 //              DCB=(RECFM=FB,LRECL=80,BLKSIZE=0),
000050 //              DISP=(NEW,CATLG)
000051 //*
000052 //SIZDLOAD DD DSN=TDCI.NEWSMP.SIZDLOAD,
000053 //              UNIT=SYSALLDA,
000054 //              VOL=SER=TSP100,
000055 //              SPACE=(TRK,(105,39,132)),
000056 //              DCB=(RECFM=U,LRECL=0,BLKSIZE=32760),
000057 //              DISP=(NEW,CATLG)
000058 //*

```

- d. KCIJGDDF – This job defines the SMP/E DDDEF zone entries for the selected product and the CALLLIBS libraries as well as for the TKANJAR path.
- e. KCIJGBDI – This job builds the directory structure for the selected products. Before submitting this job, you must ensure that the z/OS UNIX root directory that was provided in the JOBGEN USS Install Path panel already exists:

```

VIEW          TDCI.JOBGEN.RUN1(KCIJGBDI) - 01.00
Command ==>
000041 //*****
000042 //*
000043 //* Define HFS/zFS directories
000044 //*
000045 //HFS        EXEC PGM=IKJEFT1A,REGION=OM
000046 //SYSTSPT DD  SYSOUT=*
000047 //SYSTSIN DD  *
000048 EX 'TDCI.ZSMS21R.SMPE.TKCIINST(KCIRJGOM)' -
000049 '/proj/tdci2/newsmp/' -
000050 'usr/lpp/kan/bin/IBM' -
000051 EXEC
000052 //*
000053 //
***** Bottom of Data *****

```

- f. KCIJGREC – This job is the RECEIVE job, which receives the components for the selected products.
- g. KCIJGAPP – This job is the APPLY job, which applies the components for the selected products.
- h. KCIJGACC – This job is the ACCEPT job, which accepts the components for the selected products.

**Result**

After all the jobs run successfully, you have a new SMP/E environment created and selected products installed.

## Case 2: Install additional products in an existing SMP/E environment with JOBGEN

Use this step-by-step guide to install additional products in an existing SMP/E environment using the Job Generator (JOBGEN) utility.

**Before you begin**

Review the diagram in [“The JOBGEN utility process” on page 175](#).

**About this task**

Complete the following steps to install additional products in an existing SMP/E environment using the JOBGEN utility.

**Procedure**

1. Invoke the JOBGEN utility, as follows:

- a. Enter the following command for the TKANCUS library from the existing SMP/E environment where you want to install additional products:

```

DSLIST - Data Sets Matching TDCI.ZSMSTMS.SMPE.TKANCUS          Row 1 of 1
Command ==>>>                                         Scroll ==>> CSR
-----
Command - Enter "/" to select action                    Message                    Volume
-----
ex      TDCI.ZSMSTMS.SMPE.TKANCUS                      DVLK23
***** End of Data Set list *****

```

- b. Select option 2, **Installation Workflow: SMP/E-install z/OS products with Install Job Generator (JOBGEN)**, from the z/OS Installation and Configuration Tool main menu:

```

KCIPQPGW
Welcome to the z/OS Installation and Configuration Tools for
z Systems Management Suites

Option ==>> 2
1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.
2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.
3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)
I. What's New in PARMGEN? <=== Revised

Maintenance Level: HKCI310 2Q23 OA64598 PTF
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```

2. Provide the JOBGEN output PDS where you want the jobs to be created:

```

KCIPJG00 ----- INSTALL JOB GENERATOR (JOBGEN) - WELCOME -----
Command ==>>>

Welcome to the Install Job Generator (JOBGEN). This routine will
generate batch jobs to create and update an SMP/E environment.

Processing will be done in the following steps requiring user input.
(1) Select the products for installation into an SMP/E environment.
(2) Enter values for data set allocation and SMP/E processing.
(3) Enter values for HFS/zFS or CALLLIBS processing when required.

All information will be saved into an output PDS. Restarting the
processor with this PDS will cause the values to be reinstalled on
each panel. For this reason, a positive response will be required
to accept values and selections.

Enter the fully qualified PDS name and output location for the generated jobs.
JOBGEN_output_library (workfile repository)  Volser  STORCLAS  MGMTCLAS
TDCI.JOBGEN.RUN2
Enter=Next F1=Help F3=Back

```

3. Select the products that you want to install. In this example, additional products will be installed into an existing environment, so **IBM Tivoli Management Services on z/OS** is not selected:

```

KCIPJG02 ----- Job Generator - Product Selection --- Row 1 to 33 of 33
Command ==>

Select (S) the products to be included from the install media. The list
below is the list of all supported products and might have entries for
products that are not available. Be sure to select only products
that exist for this install.

You must select (S) at least one product.
To add additional products, type UPDATE on the command line and hit ENTER.

Verify your selections and change this field to accept ==> Y (Y, N)

_ Clear all product selections (X)

Sel Product Description Version
-- IBM Advanced Archive for DFSMSHsm V1.1.0
-- IBM Cloud Tape Connector for z/OS V1.1.0
-- IBM Discovery Library Adapter for z/OS V3.2.0
-- IBM OMEGAMON for z/OS V5.5.0
-- IBM OMEGAMON for CICS on z/OS V5.5.0
-- IBM OMEGAMON for Db2 Performance Expert on z/OS V5.5.0
-- IBM OMEGAMON for IMS on z/OS V5.5.0
-- IBM OMEGAMON for Messaging on z/OS V7.5.0
-- IBM OMEGAMON for Networks on z/OS V5.5.0
-- IBM OMEGAMON for Storage on z/OS V5.5.0
-- IBM OMEGAMON Dashboard Edition on z/OS V5.5.0
-- IBM Tivoli Advanced Allocation Management for z/OS V3.3.0
-- IBM Tivoli Advanced Audit for DFSMSHsm V2.6.0
-- IBM Tivoli Advanced Backup and Recovery for z/OS V2.4.0
-- IBM Tivoli Advanced Catalog Management for z/OS V2.6.0
-- IBM Tivoli Advanced Reporting and Management for DFSMSHsm V2.6.0
-- IBM Tivoli Advanced VSAM Manager for z/OS V2.6.0
-- IBM Tivoli Automated Tape Allocation Manager for z/OS V3.3.0
-- IBM Tivoli Decision Support for z/OS V1.8.1
-- IBM Tivoli Discovery Library Adapter for z/OS V3.1.0
-- IBM Tivoli Management Services on z/OS V6.3.0
-- IBM Tivoli OMEGAMON Dashboard Edition on z/OS V5.3.0
-- IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V5.4.0
-- IBM Tivoli OMEGAMON XE for DB2 Performance Monitor on z/OS V5.4.0
-- IBM Tivoli Tape Optimizer for z/OS V2.2.0
-- IBM Z OMEGAMON for CICS V5.6.0
-- IBM Z OMEGAMON for JVM V5.5.0
-- IBM Z OMEGAMON Integration Monitor V5.6.0
-- IBM Z OMEGAMON Monitor for z/OS V5.6.0
-- IBM Z OMEGAMON Network Monitor V5.6.0
-- IBM Z OMEGAMON Runtime Edition for JVM V5.5.0
-- ITCAM for Application Diagnostics on z/OS V7.1.0
-- ITCAM for Application Diagnostics on z/OS V7.1.1
Enter=Next F1=Help F3=Back F7=Up F8=Down

```

- Specify the required information in the panel:

```

KCIPJG01 ----- Job Generator - Parameters -----
Command ==>

Verify your entries and change this field to accept ==> Y (Y, N)

Specify SMP/E CSI and data set information.
SMP/E zone names: Target ==> KDSTRG Distribution ==> KDSDLB
1 SMP/E OPTIONS name ==> DEFOPT SMPTLIB volser ==> TSP100
DSPREFIX value ==> TDCI.ZSMSTMS.DS

Data set High-Level Qualifier Volser STORCLAS MGMTCLAS
2 SMP/E TDCI.ZSMSTMS.SMPE TSP100
Target TDCI.ZSMSTMS.SMPE TSP100
DLIB TDCI.ZSMSTMS.SMPE TSP100

Specify jobcard and member name information.
Generated name prefix ==> KCIJG
3 JOB //&JGJOBN JOB 'ACCOUNT_INFORMATION','&ZUSER',
CARD // CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID

Enter=Next F1=Help F3=Back

```

1 – Specify the names of the target and distribution zones and the global zone OPTIONS section, as well as the data set prefix for the SMPTLIB data sets that will be allocated for the RELFILES. You must also supply the SMPTLIB volume serial number, which will be used for the SMPTLIB DDEF entry.

2 – Specify high-level qualifiers for the SMP/E data sets and the target and distribution zone data sets. In this example, qualifiers are provided for existing SMP/E data sets where the products will be installed. You must also specify at least one of the Volser, STORCLAS, or MGMTCLAS entries. If the target or distribution zone entries are left blank, they will be propagated from the prior panel row.

3 – (Optional) Change the generated name prefix (1-5 characters) that will be used to name the generated jobs to install the selected products. You can also specify the jobcard information in the four lines that are available.

- Provide the input location of the selected products. Only one input media type is allowed at a time. In this example, the DASD input RELFILE hilev is provided. (This is the high-level qualifier preceding IBM, which already exists on the disk):

```

KCIPJG05 ----- Job Generator - Media Informat "UP      " is not active
Command ==>>

Verify your entries and change this field to accept ==> Y (Y, N)
Specify values for only one input media type.

TAPE:
  unit name ==> _____
  serial numbers ==> _____

DASD:
  Input Relfile hilev ==> TDSHR.PKG

Downloaded PAX files:
  Package ID ==> _____ (for the FROMNTS operand)
  SMPNTS Path Root ==> _____

Enter=Next F1=Help F3=Back

```

6. If a z/OS UNIX System Services (z/OS UNIX) install environment is required by any of the selected products, the USS Install Path panel is presented. Provide the z/OS UNIX install root directory. It must start with a forward slash (/) and is case sensitive. This directory will be the mount point of the HFS/zFS file system that will be used for installation:

```

KCIPJG04 ----- Job Generator - USS Install Path -----
Command ==>>

Verify your entry and change this field to accept ==> Y (Y, N)
Enter the root directory for your USS install environment so the
pathname can be defined in the target zone.

USS Install root directory ==> /proj/tdci2/qat_____

```

In this example, the SMP/E environment did not have anything installed in z/OS UNIX, so a new install root directory will be provided, like in the [Case 1 scenario](#). If there were any products installed already that are using z/OS UNIX, you must provide the install root directory that is already being used. Otherwise, JOBGEN will fail with RC=8 due to mismatching *supplied* and *installed* paths and you would have to rerun JOBGEN and enter the correct z/OS UNIX path in the panel. The following figure shows an example error that would occur when you provide an incorrect path:

```

KCIRJG01 - I Starting 15 May 2023 08:28:12
KCIRJG02 - I Starting 15 May 2023 08:28:12
KCIRJG02 - I Extracting information from:
KCIRJG02 - I      CSI - TDCI.ZSMSTMS.SMPE.CSI
KCIRJG02 - I      TZONE - KDSTRG
KCIRJG02 - I      DZONE - KSDSLB
KCIRJG02 - I End of EXEC, RC = 0
KCIRJG01 - E An error has occurred during the processing
KCIRJG01 - E of your request. Examine the KCIJGLOG
KCIRJG01 - E information and make suitable corrections
KCIRJG01 - I End of EXEC, RC = 8
KCIRJG05 - I
KCIRJG05 - I Install job creation failed.
KCIRJG05 - I
***

```

```

000001
000002          Error Messages
000003
000004
000005
000006          CSI Installed vs. User Supplied Data Set Names
000007          Correct high-level qualifiers
000008
000009          TKANJAR          Mismatch at column 17 (row=1 col=17)
000010          Installed: '/proj/tdci2/qat/usr/lpp/kan/bin/IBM/'
000011
000012
000013
000014
000015
000016
000017          Supplied: '/proj/tdci2/qatatest/usr/lpp/kan/bin/IBM
000018
000019

```

7. Remove the asterisks and/or modify the provided model CALLLIBS data sets according to your shop standards:

```

KCIPJG03 ----- Job Generator - CALLLIBS Selection ---- Row 1 to 7 of 7
Command ==>

Enter the CALLLIBS data set names for SMP/E target zone definitions.
Entries beginning with an asterisk are models. Remove the asterisk
and use or modify the entry to enable the data set name.

Verify your entries and change this field to accept ==> Y (Y, N)

-----
DDname      Description
-----
CSSLIB      MVS callable services
Data set   name ==> SYS1.CSSLIB
SCCNOBJ     XL C Compiler object library
Data set   name ==> CBC.SCCNOBJ
SCEEBND2    LE/370 C spt - XPLINK LP64 library
Data set   name ==> CEE.SCEEBND2
SCEELIB     LE/370 C spt - side-deck library
Data set   name ==> *CEE.SCEELIB
SCEELKED    LE/370 C spt - non-XPLINK, short names
Data set   name ==> *CEE.SCEELKED
SCLBSID     XL C/C++ - side-deck library
Data set   name ==> *CBC.SCLBSID
SEZACMTX    TCP/IP libraries - Load
Data set   name ==> *EZA.SEZACMTX
Enter=Next F1=Help F3=Back F7=Up F8=Down

```

After you confirm your choice, JOBGEN starts generating installation jobs.

- Wait for JOBGEN to complete the generation of the installation jobs, and monitor the return codes. A successful JOBGEN run returns RC = 0. If there are any mistakes in the setup process that JOBGEN can recognize, it will issue RC = 8 and errors will be printed in KCIJGLOG member. In this example, you can also see that the existing CSI was scanned for information:

```

KCIRJG01 - I Starting 15 May 2023 07:24:53
KCIRJG02 - I Starting 15 May 2023 07:24:53
KCIRJG02 - I Extracting information from:
KCIRJG02 - I CSI - TDCI.ZSMSTMS.SMPE.CSI
KCIRJG02 - I TZONE - KDSTRG
KCIRJG02 - I DZONE - KDSDLB
KCIRJG02 - I End of EXEC, RC = 0
KCIRJG01 - I End of EXEC, RC = 0
KCIRJG05 - I
KCIRJG05 - I Installation jobs created successfully in
KCIRJG05 - I TDCI.JOBGEN.RUN2
KCIRJG05 - I Please review the log member, KCIJGLOG.
KCIRJG05 - I
***

```

- Review the content in log member KCIJGLOG in the JOBGEN output library. It contains all the information about generated jobs and indicates the order in which they must be submitted. This member also contains a summary of the parameters that were provided in the JOBGEN panels, a list of the products selected and their FMIDs, as well as information about the data sets that will be created, DDDEFS, and so on. In this scenario, an existing SMP/E environment is being used to install additional products and qualifiers for existing SMP/E CSI, target, and distribution libraries were provided; therefore, jobs KCIJGMA and KCIJGSMI were not created. Instead, KCIJGANL and KCIJGREA jobs were created to analyze the existing SMP/E environment for adequate space to install new products.

```

Menu Functions Confirm Utilities Help
-----
BROWSE TDCI.JOBGEN.RUN2
Command ==>
-----
Name Prompt Size Created
-----
KCIDJG00
KCIDJG02 61 2023/05/15
KCIDJG05 25 2023/05/15
KCIJGACC 68 2023/05/15
KCIJGALO 324 2023/05/15
KCIJGANL 71 2023/05/15
KCIJGAPP 68 2023/05/15
KCIJGBDI 51 2023/05/15
KCIJGDDF 345 2023/05/15
KCIJGLOG 368 2023/05/15
KCIJGREA 49 2023/05/15
KCIJGREC 72 2023/05/15
**End**

```

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW TDCI.JOBGEN.RUN2(KCIJGLOG) - 01.00 Columns 00001 00080
Command ==> Scroll ==> CSR
*****
***** Top of Data *****
000001
000002 AFTER REVIEWING THE INFORMATION IN THIS LOG, SUBMIT THE JOBS SHOWN
000003 BELOW IN THE ORDER INDICATED.
000004
000005 B a t c h J o b s
000006
000007 The following members of
000008 TDCI.JOBGEN.RUN2
000009 should be submitted and executed in the order presented below.
000010
000011 Member
000012 Name Description
000013 -----
000014 KCIJGANL Analyze an existing SMP/E environment.
000015 The data sets that are already installed are examined to
000016 determine if the new products will fit into the existing
000017 allocations.
000018
000019 BE SURE TO RUN AND ANALYZE THE OUTPUT OF THIS JOB TO
000020 AVOID INSTALLATION PROBLEMS.
000021
000022 THIS JOB REQUIRES EXCLUSIVE CONTROL OF THE WORK LIBRARY.
000023 AFTER SUBMITTING THIS JOB BE SURE TO RELEASE CONTROL
000024 OF TDCI.JOBGEN.RUN2.
000025
000026 KCIJGREA Reallocate existing SMP/E libraries that were
000027 discovered by KCIJGANL to have insufficient space to
000028 hold additional product elements.
000029
000030 The controls for this job are created by the analysis
000031 routine and placed into the REALLOC member.
000032
000033 KCIJGALO Allocate required data sets
000034 This job will allocate any new data sets with the
000035 correct space requirements.
000036
000037 Existing data sets are examined by the space analysis
000038 job and a report is produced to alert users about any
000039 additional space requirements requiring action.
000040
000041

```

10. To install additional products into an existing SMP/E environment, submit the jobs in the order presented in KCIJGLOG. Every job contains a comprehensive comment section with the function of the job and additional notes. This section briefly describes all the jobs in the order that they should be submitted:
  - a. KCIJGANL – This job analyzes the existing SMP/E environment (target and distribution libraries) and checks if there is enough space to install new products. If some data sets will have to be reallocated, the REALLOC member is created in the same JOBGEN PDS. When you submit this job, the JOBGEN PDS should not be in use (browsed); otherwise, it might hang in execution:

```

VIEW          TDCI.JOBGEN.RUN2(KCIJGANL) - 01.00
Command ==>
000029 //*****
000030 //TARGETS EXEC PGM=IKJEFT1A
000031 //SYSTSPRT DD SYSOUT=*
000032 //SYSPRINT DD SYSOUT=*
000033 //SYSEXEC DD DISP=SHR,
000034 // DSN=TDCI.ZSMSTMS.SMPE.TKCIINST
000035 //REALLOC DD DISP=OLD,
000036 // DSN=TDCI.JOBGEN.RUN2(REALLOC)
000037 //SYSTSIN DD *
000038 KCIRJG04
000039 /*
000040 //LIBS DD *
000041 *
000042 * Target zone libraries
000043 *
000044 TDCI.ZSMSTMS.SMPE.TKANCMD 17 32
000045 TDCI.ZSMSTMS.SMPE.TKANCUS 128 92
000046 TDCI.ZSMSTMS.SMPE.TKANDATV 500 16
000047 TDCI.ZSMSTMS.SMPE.TKANHENU 105 70
000048 TDCI.ZSMSTMS.SMPE.TKANMAC 20 11
000049 TDCI.ZSMSTMS.SMPE.TKANMOD 538 77
000050 TDCI.ZSMSTMS.SMPE.TKANMODL 596 57
000051 TDCI.ZSMSTMS.SMPE.TKANMODP 362 PDSE
000052 TDCI.ZSMSTMS.SMPE.TKANMODS 126 96
000053 TDCI.ZSMSTMS.SMPE.TKANPAR 23 15
000054 TDCI.ZSMSTMS.SMPE.TKANPKGI 87 12
000055 TDCI.ZSMSTMS.SMPE.TKANSAM 75 47
000056 *
000057 * DLIB zone libraries
000058 *
000059 TDCI.ZSMSTMS.SMPE.DKANCMD 17 32
000060 TDCI.ZSMSTMS.SMPE.DKANCUS 128 92
000061 TDCI.ZSMSTMS.SMPE.DKANDATV 500 16
000062 TDCI.ZSMSTMS.SMPE.DKANHENU 105 70
000063 TDCI.ZSMSTMS.SMPE.DKANMAC 20 11
000064 TDCI.ZSMSTMS.SMPE.DKANMOD 297 215
000065 TDCI.ZSMSTMS.SMPE.DKANMODL 711 95
000066 TDCI.ZSMSTMS.SMPE.DKANMODP 90 PDSE
000067 TDCI.ZSMSTMS.SMPE.DKANMODS 120 52
000068 TDCI.ZSMSTMS.SMPE.DKANPAR 23 15
000069 TDCI.ZSMSTMS.SMPE.DKANPKGI 87 12
000070 TDCI.ZSMSTMS.SMPE.DKANSAM 75 47
000071 /*
***** Bottom of Data *****

```

When the job completes, it prints a detailed log that provides information about space requirements. If there are no data sets to reallocate, the REALLOC member will be empty and there is no need to submit next job, KCIJGREA.

```

***** TOP OF DATA *****
                        DATA SET SPACE REQUIREMENTS ANALYSIS

This report reflects space requirements for installing new product
components. It does not include additional space or directory block
requirements introduced by the maintenance stream.

The following data set(s) DO NOT HAVE sufficient space or directory
blocks to install the selected products. An asterisk indicates the
requirement that cannot be satisfied. You must reallocate these
data set(s).

Data Set Name                Required   Available   SecTrks
                             Trk      Dir      Trk      Dir
-----
TDCI.ZSMSTMS.SMPE.TKANMODS   126*    96       22     126     60
TDCI.ZSMSTMS.SMPE.DKANMOD    297   215*    37     126    1500
TDCI.ZSMSTMS.SMPE.DKANMODS   120*    52       22     126     60

The following data set(s) have secondary allocations sufficient to
install the selected products.

Data Set Name                Required   Available   SecTrks
                             Trk      Dir      Trk      Dir
-----
TDCI.ZSMSTMS.SMPE.TKANMATV   500     16       12     127    6630
TDCI.ZSMSTMS.SMPE.TKANHENU   105     70       21     124    165
TDCI.ZSMSTMS.SMPE.TKANMOD    538     77       29     129   1515
TDCI.ZSMSTMS.SMPE.TKANMODL   596     57       39    100  14518
TDCI.ZSMSTMS.SMPE.TKANPAR    23      15       16     128    555
TDCI.ZSMSTMS.SMPE.TKANPKGI   87      12       19     131    435
TDCI.ZSMSTMS.SMPE.TKANSAM    75      47       43     120   4440
TDCI.ZSMSTMS.SMPE.DKANMATV   500     16       12     127    6630
TDCI.ZSMSTMS.SMPE.DKANHENU   105     70       21     124    165
TDCI.ZSMSTMS.SMPE.DKANMODL   711     95      111    122  15540
TDCI.ZSMSTMS.SMPE.DKANPAR    23      15       16     128    555
TDCI.ZSMSTMS.SMPE.DKANPKGI   87      12       19     131    435
TDCI.ZSMSTMS.SMPE.DKANMATV   75      47       43     120   4440

The following data set(s) have allocations sufficient to install the
selected products.

Data Set Name                Required   Available
                             Trk      Dir      Trk      Dir
-----
TDCI.ZSMSTMS.SMPE.TKANCMD    17      32       26     129
TDCI.ZSMSTMS.SMPE.TKANCUS   128     92      606    718
TDCI.ZSMSTMS.SMPE.TKANMAC    20      11       24     131
TDCI.ZSMSTMS.SMPE.TKANMODP   362   PDSE   PDSE   PDSE
TDCI.ZSMSTMS.SMPE.DKANCMD    17      32       26     129
TDCI.ZSMSTMS.SMPE.DKANCUS   128     92      606    718
TDCI.ZSMSTMS.SMPE.DKANMAC    20      11       24     131
TDCI.ZSMSTMS.SMPE.DKANMODP   90   PDSE   PDSE   PDSE
***** BOTTOM OF DATA *****

```

- b. KCIJGREA – This job reallocates existing SMP/E data sets using the REALLOC control member created in the previous job, KCIJGANL. Submit this job only if there are data sets that need to be reallocated and the REALLOC member contains new space requirements:

```

VIEW          TDCI.JOBGEN.RUN2(KCIJGREA) - 01.00
Command ==>
000032 //*****
000033 //REALLOC EXEC PGM=IKJEFT1A,PARM=KCIJGREA
000034 //SYSTSPRT DD SYSOUT=*
000035 //SYSEXEC DD DISP=SHR,
000036 //      DSN=TDCI.ZSMSTMS.SMPE.TKCIINST
000037 //SYSTSIN DD DUMMY
000038 //*
000039 //SYSPRINT DD SYSOUT=*
000040 //SYSUT3 DD DISP=(NEW),
000041 //      UNIT=SYSALLDA,
000042 //      SPACE=(TRK,(50,50,132))
000043 //SYSUT4 DD DISP=(NEW),
000044 //      UNIT=SYSALLDA,
000045 //      SPACE=(TRK,(50,50,132))
000046 //SYSIN DD DUMMY
000047 //*
000048 //LIBS DD DISP=SHR,
000049 //      DSN=TDCI.JOBGEN.RUN2(REALLOC) ←
***** Bottom of Data *****

```

```

VIEW          TDCI.JOBGEN.RUN2(REALLOC) - 01.00
Command ==>
***** Top of Data *****
000001 * Reallocation Control Information *
000002 * Produced by KCIJG04 on 15 May 2023 07:32:50 *
000003 *****
000004 TDCI.ZSMSTMS.SMPE.TKANMODS
000005 SPACE(134 67) DIR(132)
000006 TDCI.ZSMSTMS.SMPE.DKANMOD
000007 SPACE(485 242) DIR(264)
000008 TDCI.ZSMSTMS.SMPE.DKANMODS
000009 SPACE(128 64) DIR(88)
000010 ***** Bottom of Data *****

```

- c. KCIJGALO – This job allocates the target and distribution libraries for the selected products that are missing and are required for the selected products. In this job you can also find the VOLUME

setting that was provided in JOBGEN panels. If the data sets are SMS-managed, the VOLUME lines can be deleted from the JCL before submitting the job:

```

VIEW          TDCI . JOBGEN . RUN2 (KCIJGALO)  - 01.00
Command =====>
000030 //*****
000031 //ALLOC      EXEC PGM=IEFBR14
000032 //*
000033 //*  ALLOCATE TARGET LIBRARIES
000034 //*
000035 //SIZDEXEC DD DSN=TDCI . ZSMSTMS . SMPE . SIZDEXEC ,
000036 //          UNIT=SYSALLDA ,
000037 //          VOL=SER=TSP100 ,
000038 //          SPACE=(TRK , (30 , 3 , 132)) ,
000039 //          DCB=(RECFM=FB , LRECL=80 , BLKSIZE=0) ,
000040 //          DISP=(NEW , CATLG)
000041 //*
000042 //SIZDINST DD DSN=TDCI . ZSMSTMS . SMPE . SIZDINST ,
000043 //          UNIT=SYSALLDA ,
000044 //          VOL=SER=TSP100 ,
000045 //          SPACE=(TRK , (30 , 1 , 132)) ,
000046 //          DCB=(RECFM=FB , LRECL=80 , BLKSIZE=0) ,
000047 //          DISP=(NEW , CATLG)
000048 //*
000049 //SIZDLOAD DD DSN=TDCI . ZSMSTMS . SMPE . SIZDLOAD ,
000050 //          UNIT=SYSALLDA ,
000051 //          VOL=SER=TSP100 ,
000052 //          SPACE=(TRK , (105 , 39 , 132)) ,
000053 //          DCB=(RECFM=U , LRECL=0 , BLKSIZE=32760) ,
000054 //          DISP=(NEW , CATLG)
000055 //*
000056 //SIZDMAPS DD DSN=TDCI . ZSMSTMS . SMPE . SIZDMAPS ,
000057 //          UNIT=SYSALLDA ,
000058 //          VOL=SER=TSP100 ,
000059 //          SPACE=(TRK , (30 , 5 , 132)) ,
000060 //          DCB=(RECFM=VB , LRECL=1024 , BLKSIZE=0) ,
000061 //          DISP=(NEW , CATLG)
000062 //*

```

- d. KCIJGDDF – This job defines the SMP/E DDDEF zone entries for the newly allocated product data sets and the CALLLIBS libraries as well as for the TKANJAR path:

```

VIEW          TDCI . JOBGEN . RUN2 (KCIJGDDF)  - 01.00
Command =====>
000044 //*****
000045 //DDDEF1     EXEC PGM=GIMSMP , REGION=0M
000046 //SMPCSI    DD DSN=TDCI . ZSMSTMS . SMPE . CSI , DISP=SHR
000047 //SMPCNTL   DD *
000048 SET BDY(KDSTRG) .
000049 UCLIN .
000050 ADD DDDEF(SIZDEXEC)
000051 DA(TDCI . ZSMSTMS . SMPE . SIZDEXEC)
000052 WAITFORDSN
000053 SHR .
000054 ADD DDDEF(SIZDINST)
000055 DA(TDCI . ZSMSTMS . SMPE . SIZDINST)
000056 WAITFORDSN
000057 SHR .
000058 ADD DDDEF(SIZDLOAD)
000059 DA(TDCI . ZSMSTMS . SMPE . SIZDLOAD)
000060 WAITFORDSN
000061 SHR .
000062 ADD DDDEF(SIZDMAPS)
000063 DA(TDCI . ZSMSTMS . SMPE . SIZDMAPS)
000064 WAITFORDSN
000065 SHR .
000066 ADD DDDEF(SIZDMESG)
000067 DA(TDCI . ZSMSTMS . SMPE . SIZDMESG)
000068 WAITFORDSN
000069 SHR .
000070 ADD DDDEF(SIZDSAMP)

```

- e. KCIJGBDI – This job builds the directory structure for the selected products. Before submitting this job, you must ensure that the z/OS UNIX root directory that was provided in the JOBGEN USS Install Path panel already exists. In this example, this job was created because the SMP/E environment did not have it defined earlier. If such a path already exists and is defined to SMP/E, the KCIJGBDI job will not be created:

```

VIEW          TDCI.JOBGEN.RUN2(KCIJGBDI) - 01.00
Command ==>
000039 //*****
000040 //*
000041 //* Define HFS/zFS directories
000042 //*
000043 //HFS      EXEC PGM=IKJEFT1A,REGION=0M
000044 //SYSTSPRT DD  SYSOUT=*
000045 //SYSTSIN  DD  *
000046 EX 'TDCI.ZSMSTMS.SMPE.TKCIINST(KCIRJGOM)' -
000047 '/proj/tdci2/gat/' -
000048 'usr/lpp/kan/bin/IBM' -
000049 EXEC
000050 //*
000051 //
***** Bottom of Data *****

```

- f. KCIJGREC – This job is the RECEIVE job, which receives the components for the selected products. If any of the components that are shared by the products is already installed, it will be skipped from the job.
- g. KCIJGAPP – This job is the APPLY job, which applies the components for the selected products. If any of the components that are shared by the products is already applied, it will be excluded in the SMPCNTL statement.
- h. KCIJGACC – This job is the ACCEPT job, which accepts the components for the selected products. If any of the components that are shared by the products is already accepted, it will be excluded in the SMPCNTL statement.

### Result

After all the jobs run successfully, you have additional products installed in an existing SMP/E environment.

## Program Directories

Find the Program Directories of the OMEGAMON family products and Suite products in the following table.

Table 23: Program Directories	
Product name	Program Directory
IBM® OMEGAMON for CICS® on z/OS 5.5.0	<a href="#">Program Directory for IBM OMEGAMON for CICS on z/OS V5.5.0</a>
IBM Z® OMEGAMON® for CICS® 5.6.0	<a href="#">Program Directory for IBM Z OMEGAMON for CICS 5.6.0</a>
IBM Z® OMEGAMON® AI for CICS 6.1	<a href="#">Program Directory for IBM Z OMEGAMON AI for CICS 6.1.0</a>
IBM OMEGAMON Dashboard Edition on z/OS 5.5.0	<a href="#">Program Directory for IBM OMEGAMON Dashboard Edition on z/OS V5.5.0</a>
IBM Z® OMEGAMON Integration Monitor 5.6	<a href="#">Program Directory for IBM Z Monitoring Suite 1.3.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 1.3.1</a> <a href="#">Program Directory for IBM Z Monitoring Suite 1.4.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.1.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.2.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.3.0</a>
IBM Tivoli OMEGAMON® XE for Db2 Performance Expert on z/OS 5.4.0	<a href="#">Program Directory for IBM Tivoli OMEGAMON XE for Db2 Performance Expert on z/OS V5.4.0</a>
IBM OMEGAMON® for Db2 Performance Expert on z/OS 5.5	<a href="#">Program Directory for IBM OMEGAMON for Db2 Performance Expert on z/OS 5.5.0 (May 2022)</a> <a href="#">Program Directory for IBM OMEGAMON for Db2 Performance Expert on z/OS 5.5.0 (June 2023)</a>

**Note:** Program installation and maintenance information for this IBM® Z Monitoring Suite component product is documented in the program directory for the suite.

Product name	Program Directory
IBM Z® OMEGAMON® AI for Db2 6.1.0	<a href="#">Program Directory for IBM Z OMEGAMON AI for Db2 6.1.0</a>
IBM® OMEGAMON for IMS on z/OS 5.5.0	<a href="#">Program Directory for IBM OMEGAMON for IMS on z/OS V5.5.0</a>
IBM® OMEGAMON for JVM on z/OS 5.4.0	<a href="#">Program Directory for IBM OMEGAMON for JVM on z/OS V5.4.0</a>
IBM® Z OMEGAMON for JVM, 5.5.0	<a href="#">Program Directory for IBM Z OMEGAMON for JVM, version V5.5.0</a>
IBM® Z OMEGAMON Runtime Edition for JVM, 5.5.0	<a href="#">Program Directory for IBM Z OMEGAMON Runtime Edition for JVM V5.5.0</a>
IBM Z® OMEGAMON® AI for JVM, 6.1	<a href="#">Program Directory for IBM Z OMEGAMON AI for JVM 6.1.0</a>
IBM® OMEGAMON for Messaging on z/OS 7.5.0	<a href="#">Program Directory for IBM OMEGAMON for Messaging on z/OS V7.5.0</a>
IBM® OMEGAMON for Networks on z/OS 5.5.1	<a href="#">Program Directory for IBM OMEGAMON for Networks on z/OS V5.5.1</a>
IBM® Z OMEGAMON Network Monitor 5.6	<a href="#">Program Directory for IBM Z Monitoring Suite 1.3.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 1.3.1</a> <a href="#">Program Directory for IBM Z Monitoring Suite 1.4.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.1.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.2.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.3.0</a>
<div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> Program installation and maintenance information for this IBM® Z Monitoring Suite component product is documented in the program directory for the suite.</p> </div>	
IBM Z® OMEGAMON® AI for Networks 6.1	<a href="#">Program Directory for IBM Z OMEGAMON AI for Networks 6.1.0</a>
IBM® OMEGAMON for Storage on z/OS 5.4.0	<a href="#">Program Directory for IBM OMEGAMON for Storage on z/OS V5.4.0</a>
IBM® OMEGAMON for Storage on z/OS 5.5.0	<a href="#">Program Directory for IBM OMEGAMON for Storage on z/OS V5.5.0 (November 2020)</a> <a href="#">Program Directory for IBM OMEGAMON for Storage on z/OS V5.5.0 (November 2022)</a>
IBM Z® OMEGAMON® AI for Storage 6.1	<a href="#">Program Directory for IBM Z OMEGAMON AI for Storage 6.1.0</a>
IBM® OMEGAMON for z/OS 5.5.1	<a href="#">Program Directory for IBM OMEGAMON for z/OS V5.5.1</a>
IBM® Z OMEGAMON Monitor for z/OS 5.6	<a href="#">Program Directory for IBM Z Monitoring Suite 1.3.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 1.3.1</a> <a href="#">Program Directory for IBM Z Monitoring Suite 1.4.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.1.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.2.0</a> <a href="#">Program Directory for IBM Z Monitoring Suite 2.3.0</a>
<div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> Program installation and maintenance information for this IBM® Z Monitoring Suite component product is documented in the program directory for the suite.</p> </div>	
IBM Z® OMEGAMON® AI for z/OS® 6.1	<a href="#">Program Directory for IBM Z OMEGAMON AI for z/OS 6.1.0</a>
IBM® NetView for z/OS Enterprise Management Agent 6.2.1	<a href="#">Program Directory for IBM Tivoli NetView for z/OS Enterprise Management Agent V6.2.1</a>
IBM Z® NetView Enterprise Management Agent 6.3.0	<a href="#">Program Directory for IBM Z NetView Enterprise Management Agent V6.3.0</a>

<b>Product name</b>	<b>Program Directory</b>
IBM Z® NetView Enterprise Management Agent 6.4.0	<a href="#">Program Directory for IBM Z NetView Enterprise Management Agent V6.4.0</a>
IBM Z® NetView Enterprise Management Agent 6.5.0	<a href="#">Program Directory for IBM Z NetView Enterprise Management Agent 6.5.0</a>
IBM System Automation Monitoring Agent 3.5.0	<a href="#">Program Directory for IBM Tivoli System Automation for z/OS V3.5.0</a>
IBM Service Management Suite for z/OS 1.5.0	<a href="#">Program Directory for IBM Service Management Suite for z/OS 1.5.0</a>
IBM Service Management Suite for z/OS 1.6.0	<a href="#">Program Directory for IBM Z Service Management Suite V1.6.1</a>
IBM Z Service Management Suite 1.7.0	<a href="#">Program Directory for IBM Z Service Management Suite 1.7.0</a>
IBM Z Service Management Suite 1.8.0	<a href="#">Program Directory IBM Z Service Management Suite 1.8.0</a>
IBM Z Service Management Suite 2.1.0	<a href="#">Program Directory for IBM Z Service Management Suite 2.1.0</a>
IBM Z Service Management Suite 2.1.1	<a href="#">Program Directory for IBM Z Service Management Suite 2.1.1</a>
IBM Z Service Management Suite 2.2.0	<a href="#">Program Directory for IBM Z Service Management Suite 2.2.0</a>
IBM® Z Service Management Suite 2.3.0	<a href="#">Program Directory for IBM Z Service Management Suite 2.3.0</a>
IBM® Z Service Management Suite 2.3.1	<a href="#">Program Directory for IBM Z Service Management Suite 2.3.1</a>
IBM® Z Service Management Suite 2.4.1	<a href="#">Program Directory for IBM Z Service Management Suite 2.4.1</a>
IBM Z Service Management Suite 3.1.1	<a href="#">Program Directory for IBM Z Service Management Suite 3.1.1</a>
IBM Z Service Management Suite 3.2.0	<a href="#">Program Directory for IBM Z Service Management Suite 3.2.0</a>
IBM Z Service Management Suite 3.2.1	<a href="#">Program Directory for IBM Z Service Management Suite 3.2.1</a>
IBM Z Service Management Suite 3.3.0	<a href="#">Program Directory for IBM Z Service Management Suite 3.3.0</a>
IBM® Z Monitoring Suite 1.1.0	<a href="#">Program Directory for IBM Z Monitoring Suite V1.1.0</a>
IBM® Z Monitoring Suite 1.1.1	<a href="#">Program Directory for IBM Z Monitoring Suite V1.1.1</a>
IBM® Z Monitoring Suite 1.2.0	<a href="#">Program Directory for IBM Z Monitoring Suite 1.2.0</a>
IBM® Z Monitoring Suite 1.2.1	<a href="#">Program Directory for IBM Z Monitoring Suite 1.2.1</a>
IBM® Z Monitoring Suite 1.3.0	<a href="#">Program Directory for IBM Z Monitoring Suite 1.3.0</a>
IBM® Z Monitoring Suite 1.3.1	<a href="#">Program Directory for IBM Z Monitoring Suite 1.3.1</a>
IBM® Z Monitoring Suite 1.4.0	<a href="#">Program Directory for IBM Z Monitoring Suite 1.4.0</a>
IBM® Z Monitoring Suite 1.4.1	<a href="#">Program Directory for IBM Z Monitoring Suite 1.4.1</a>
IBM® Z Monitoring Suite 2.1.0	<a href="#">Program Directory for IBM Z Monitoring Suite 2.1.0</a>
IBM® Z Monitoring Suite 2.1.1	<a href="#">Program Directory for IBM Z Monitoring Suite 2.1.1</a>
IBM® Z Monitoring Suite 2.2.0	<a href="#">Program Directory for IBM Z Monitoring Suite 2.2.0</a>
IBM® Z Monitoring Suite 2.2.1	<a href="#">Program Directory for IBM Z Monitoring Suite 2.2.1</a>
IBM® Z Monitoring Suite 2.3.0	<a href="#">Program Directory for IBM Z Monitoring Suite 2.3.0</a>

<b>Product name</b>	<b>Program Directory</b>
IBM® zSystems Integration for Observability 6.1.0	<a href="#">Program Directory for IBM zSystems Integration for Observability 6.1.0</a>
IBM® zSystems Integration for Observability 6.1.1	<a href="#">Program Directory for IBM zSystems Integration for Observability 6.1.1</a>
IBM® Z Integration for Observability 6.2.0	<a href="#">Program Directory for IBM Z Integration for Observability 6.2.0</a>
IBM® Z Integration for Observability 6.2.1	<a href="#">Program Directory for IBM Z Integration for Observability 6.2.1</a>
IBM® Z Integration for Observability 6.3.0	<a href="#">Program Directory for IBM Z Integration for Observability 6.3.0</a>
IBM Tivoli Management Services on z/OS 6.3.0	<a href="#">Program Directory for IBM Tivoli Management Services on z/OS V6.3.0</a>
IBM Tivoli Management Services on z/OS 6.3.1	<a href="#">Program Directory for IBM Tivoli Management Services on z/OS 6.3.1</a>
IBM Tivoli Management Services on z/OS 6.3.2	<a href="#">Program Directory for IBM Tivoli Management Services on z/OS 6.3.2</a>
IBM Tivoli Management Services on z/OS 6.3.3	<a href="#">Program Directory for IBM Tivoli Management Services on z/OS 6.3.3</a>
IBM Tivoli Management Services on z/OS 6.3.4	<a href="#">Program Directory for IBM Tivoli Management Services on z/OS 6.3.4</a>
IBM Tivoli Management Services on z/OS 6.4.0	<a href="#">Program Directory for IBM Tivoli Management Services on z/OS 6.4.0</a>
IBM® Z Service Management Explorer 6.3.1	<a href="#">Program Directory for IBM Z Service Management Explorer 6.3.1 (May 2020)</a> <a href="#">Program Directory for IBM z Service Management Explorer V6.3.1 (August 2022)</a>
IBM® Z Service Management Explorer 6.3.2	<a href="#">Program Directory for IBM Z Service Management Explorer 6.3.2</a>
IBM® Z Service Management Explorer 6.3.3	<a href="#">Program Directory for IBM Z Service Management Explorer 6.3.3</a>
IBM® Z Service Management Explorer 6.3.4	<a href="#">Program Directory for IBM Z Service Management Explorer 6.3.4</a>
IBM® Z Service Management Explorer 6.4.0	<a href="#">Program Directory for IBM Z Service Management Explorer 6.4.0</a>
IBM® Z Storage Management Suite 3.1.0	<a href="#">Program Directory for IBM Z Storage Management Suite 3.1.0</a>

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# Upgrading

Before upgrading components of Tivoli® Management Services on z/OS and the OMEGAMON® monitoring agent products, consider the basic requirements for the upgrade and the effects of a staged upgrade.

You can find additional, product-specific upgrade information in the documentation for V5.5.0 monitoring product. Technotes for each product are available on the [IBM® Software Support](https://www.ibm.com/software/support) website (<https://www.ibm.com/software/support>).

This upgrade information make the following assumptions:

- You are already at Tivoli Management Services V6.2.x or higher.
- You are upgrading the Tivoli Management Services components to the V6.3.0 and its Fix Packs, or you are upgrading one or more monitoring agent products to V5.5.0 (or V7.5.0 for OMEGAMON for Messaging on z/OS) or later versions.

You can use the ShopzSeries website to order mainframe products and maintenance (also known as program temporary fixes or PTFs). The primary product fulfillment mechanism is physical media, but electronic CBPDOs (Custom-Built Product Delivery Offerings) are available. Maintenance is available on physical tape or electronically on the ShopzSeries website. For information about ordering products and maintenance through the ShopzSeries website, see technote [Ordering Products and Maintenance Through Shop zSeries](https://www.ibm.com/support/docview.wss?uid=swg21225816) (<https://www.ibm.com/support/docview.wss?uid=swg21225816>).

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## Upgrade order

The upgrade to a new version of an OMEGAMON agent follows an ordered procedure. The path to follow depends on the version levels of your previously installed components and products. Follow the sequence of steps appropriate for your monitored environment to complete the upgrade.

If you are running at or upgrading to Tivoli Management Services on z/OS version 6.3.0 Fix Pack 2 or later versions, follow the [Required order of upgrade](#) in the "Planning your upgrade" section of the *IBM Tivoli Monitoring Installation and Setup Guide*.

**Important:** If the self-describing agent (SDA) feature is not enabled, you must upgrade the hub monitoring server before you upgrade remote servers and monitoring agents. The order is not optional. If you are using self-describing agents, you can upgrade remote servers and agents before you upgrade the hub, but some new features may not be available until you upgrade the hub.

**Tip:** If you want to migrate your monitoring server or Tivoli Enterprise Portal Server to a different platform (for example, from Windows® to Linux® on zSeries®), you must upgrade it in place first, and then use the export/import capability. For more information, see the [IBM Tivoli Monitoring: Installation and Setup Guide](#).

---

## Backing up your environments

Before you begin your upgrade, you may want to backup up your current environments. That way, you can revert to the original environment if anything goes wrong with the upgrade, or you can continue to maintain your existing environments as you stage your upgrade.

### About this task

On zOS, there are multiple ways to achieve a backup:

- Run full disk backups of the SMPE and runtime environments (RTEs).
- Run DFDSS copy of the SMPE and RTEs (often referred to as "cloning"), then install new versions into the existing environment, keeping the backup around.

- Create a cloned CSI or a cloned target zone, then install into the new cloned CSI or target zone. If you run from target libraries, you modify your runtime procedures to run from the new targets. To reinstate the backup, you restart your runtime process pointing to the old targets. The following JCL symbolics in the runtime process enable you to switch between upgraded and backed up environments:
  - RHILEV--the runtime high-level qualifier
  - BASEHLEV--the high-level qualifier for the SMP/E target libraries, a full RTE, or a base RTE

See [“Cloning an SMP/E environment for a staged upgrade of existing runtime environments” on page 195](#) for complete instructions for a cloned upgrade install.

To back up Tivoli Management Services components on distributed operating systems, see the following references:

- [Backing up IBM Tivoli Monitoring](#)
- [Backing up the Tivoli Enterprise Portal and Tivoli Data Warehouse databases](#)

## SMP/E installation

Using the SMP/E utility, you can install new versions of products and components into a cloned, new, or existing consolidated software inventory (CSI). The SMP/E Modification Control Statements that are delivered with the IBM Tivoli Management Services on z/OS and OMEGAMON product FMIDs delete the previous version of the relevant components. If you want to perform a staged upgrade, install the new versions into a cloned or new SMP/E environment, so you can still maintain and reconfigure runtime environments that contain older versions. If you are performing a complete upgrade, you can install new versions into an existing SMP/E environment (“upgrade in place”).

Consider the benefits of each installation scenario when deciding which of the three is most appropriate for your upgrade: a cloned environment for a staged upgrade, a new environment for a staged upgrade, or an existing environment for an “in place” upgrade.

A staged upgrade makes it possible for you to perform your upgrade gradually, rather than all at once. For a staged upgrade to succeed, you must keep the previous versions of products and components intact so that you can continue to apply maintenance to them until the entire environment has been upgraded. Therefore, the installation scenarios for staged upgrades involve installing the new components into either a cloned copy of the existing libraries or a new CSI. You can then upgrade runtime environments one at a time.

If you are upgrading in place (and not staging your upgrade), you should back up the existing runtime and installation libraries before installing the new version, in case you need to back out the upgrade.

For instructions on planning and performing the SMP/E installation of IBM Tivoli Management Services on z/OS (including Tivoli Enterprise Monitoring Server, TMS:Engine, and the configuration software), see [Program Directory for IBM Tivoli Management Services on z/OS 6.4.0](#). For instructions on planning and performing the SMP/E installation of the OMEGAMON® products, see the program directory for each product.

## Cloning an SMP/E environment for a staged upgrade of existing runtime environments

Cloning an environment and installing new versions into the cloned environment makes it possible for you to stage your upgrade. You can continue to apply maintenance to and reconfigure runtime environments that have not yet been upgraded as you gradually upgrade others.

### About this task

In this scenario, you use JOBGEN to install new versions into a new set of SMP/E libraries. Then, you upgrade runtime environments one by one by pointing them to the updated libraries in the cloned environment and making any configuration changes required to upgrade them.

**Note:** This scenario assumes a PARMGEN to PARMGEN upgrade.

### Procedure

1. Install the products into a new set of SMP/E target libraries using the Install Job Generator (JOBGEN).

- a. Launch the installation and configuration software in an existing installation:
 

```
EX '%GBL_TARGET_HILEV%.TKANCUS'
```
  - b. On the Welcome page, select option 2 (SMP/E-install z/OS® products with Install Job Generator).
  - c. Supply the values as prompted.
  - d. Submit the file-tailored KCIJG\* SMP/E jobs to complete the installation.
  - e. Exit JOBGEN and then exit the software configuration software.
2. Modify each runtime environment in the new CSI to point to the new target libraries and high-level qualifiers.
    - a. Invoke the configuration software from TKANCUS of the new environment and select option 3 (Configuration Workflow).
    - b. Set the GBL\_USER\_JCL and RTE\_PLIB\_HILEV fields to the new values for the cloned GBL\_USER\_JCL. For RTE\_NAME, specify the name of the runtime environment you want to clone and upgrade, then press Enter.  
For RTE\_PLIB\_HILEV, use a different value for the high-level qualifier, not the one in production (for example, change OMEG623.%USER\_ID% to OMEG630.%USER\_ID%), so the new runtime environment uses a different set of PARMGEN IK\*, WCONFIG, and WK\* work libraries.
    - c. Select option 1 (Set up PARMGEN work environment for an RTE).
      - On the first set-up panel, provide the library and LPAR profile member name for the runtime environment you are cloning (for example, OMEG623.%USER\_ID%.PLBLPAR1.WCONFIG(PLBLPAR1)).
      - On the second set-up panel, specify the new GBL\_TARGET\_HILEV.
      - On the third set-up panel, you should not need to make any changes if you want an exact clone of the existing environment. However, any changes you make on this panel will be reflected in the corresponding parameters in the RTE configuration profile.
      - On the fourth set-up panel, all the products installed in the new CSI are selected. The products already configured in the RTE that is being cloned are marked with an asterisk. Deselect any products that you do not want to configure in this RTE, then specify Y in the **Confirm ==>** field and press Enter. The latest versions of the products installed are configured into new runtime environment.
      - When prompted, provide a name for the backed up RTE profile and press Enter.
    - d. Review and submit the KCIJPCFG job, then return to the main Workflow panel.

## What to do next

Complete the remaining steps as appropriate for your upgrade scenario:

- If the new FMIDs introduce no configuration changes, only the KCIJcLOD job is required, to copy the target libraries to the RK\* runtime libraries.  
See [“Scenario SMPE04: Upgrading an existing runtime environment with no configuration changes” on page 197](#) for detailed instructions.
- If the new FMID contain new components or configuration parameters and you want to implement the changes using IBM-supplied configuration defaults, the following jobs must be resubmitted:
  - The \$PARSE or \$PARSESV job to recreate the runtime members and jobs
  - The following jobs, as indicated:
    - KCIJPLOD to copy the target libraries to the RK\* runtime libraries
    - KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
    - KCIJPUSP and KCIJPUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
    - KCIJPSYS (if upgrade introduces new started tasks or nodes)
    - KCIJPCPR to backup RK\* production user runtime libraries job

- KCIJPW2R to copy the WK\* work libraries to the RK\* production libraries

See [“Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults” on page 199](#) for detailed instructions for submitting these jobs.

- To customize new components or parameters, edit the configuration profiles, and then submit the jobs listed in the previous bullet.  
See [“Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults” on page 201](#) for detailed instructions.

## Scenario SMPE04: Upgrading an existing runtime environment with no configuration changes

If you apply maintenance that contains upgraded FMIDs but does not contain features that require configuration changes, you only need to refresh the work libraries (to update the version) and load the read-only files from the SMP/E target libraries to the runtime libraries.

### About this task

If you are upgrading in place (that is using the same target libraries and the same runtime product libraries, follow these instructions. Otherwise, follow [“Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults” on page 199](#) and change the high-level qualifiers as appropriate.

**Note:** If you are upgrading it to V6.3.0 Fix Pack 6 and you have a V6.2.3 z/OS hub monitoring server with SDA enabled and you elected to retain the previous behavior (no granular controls), follow the steps in [“Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults” on page 199](#). If you are upgrading a monitoring server at a version prior to V6.2.3 to V6.3.0 FP6, you must also follow [“Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults” on page 201](#). In the first case, the load job needs to be refreshed to add the REPROKFA step to the load job. In the second scenario, new VSAM libraries need to be allocated, so the KCIJPALO and KCIJPLOD jobs need to be refreshed as well.

Perform an upgrade with no configuration changes involves the following steps:

1. Refreshing the work libraries.
2. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data.

### Procedure

1. Refresh the work libraries.
  - a. From the Workflow main menu, select **Set up PARMGEN work environment for an RTE**. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

While configuring an existing RTE profile, you have asked to
navigate to the KCIJPCFG option to review or make changes to the
KCIJPCFG job, which was run with highest condition code RC= 00000
on 2017/07/27. In most cases, if you change any KCIJPCFG
parameters, you will have to rerun the KCIJPCFG job and certain
subsequent PARMGEN configuration jobs.

Press ENTER to continue with KCIJPCFG changes.

Press F3 to abort.
```

- b. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.

- c. Step through the presented panels by pressing Enter to accept the current configuration values. (On the **Include Products in this PARMGEN RTE** panel, enter y to confirm the current choices.) After you confirm the current product selection, you are prompted to provide a name for the backup copy of the RTE profile.
  - d. Provide a name for the backup, then press Enter. The KCIJPCFG JCL is displayed.
  - e. Review the notes, then submit the job. The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Submit the jobs to complete the setup of the RTE.
    - a. Select **Submit batch jobs to complete PARMGEN setup**. The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.
```

Description	REQ	Job Name	Status	Date
1. Composite SUBMIT job (See JCL comments) ** OR **		KCIJPSUB		
2. Allocate runtime R0 and RW datasets	(Yes)	KCIJPALO		
3. Copy SMP/E mbrs from TK*->RK* R0 libs	(Yes)	KCIJPLOD		
4. Run product security steps	(Yes)	KCIJPSEC		
5. Update variable-named runtime mbrs	(No )	KCIJPUPV		
6. (Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7. Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8. Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9. Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10. Verify the configuration jobs	(Tip)	KCIJPIVP		
11. Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12. Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

```
Press F1=Help for more information. Type UTIL to access utility menu.
```

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might need to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)

- KCIJPLNK (if OMEGAMON for IMS on z/OS is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

## Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults

Upgraded FMIDs can include new product features that introduce configuration changes (such as new product configuration parameters in RKANPARU(KppENV), or new RK\* runtime members). Typically, these types of configuration changes caused by new product versions are delivered as benign, and IBM-supplied configuration defaults are supplied, so you do not need to customize the configuration profiles to incorporate them. However, you do need to stage the changes by refreshing the work environment and recreating the runtime members and jobs.

### About this task

This scenario involves the following steps:

1. Refreshing the work libraries.
2. Regenerating the RTE members and jobs.
3. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements indicated in ++HOLD data.

**Tip:** Each site has different change-control procedures. Certain sites deploy these types of changes by renaming the current production RK\* libraries to a backup set like RK\*.Dyymmdd, then renaming the latest WK\* set to RK\*. Sample deployment and backup jobs WKANSAMU(KCIJcCPY) and WKANSAMU(KCIJcW2R) provide helpful samples.

To stage the new configuration parameters, complete the following procedure.

### Procedure

1. Refresh the PARMGEN work environment.  
This step update interim libraries and recreates the configuration profiles with any new parameters.
  - a. On the main Workflow panel, specify the name of the runtime environment to which you want to apply maintenance.
  - b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.

The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

While configuring an existing RTE profile, you have asked to
navigate to the KCIJPCFG option to review or make changes to the
KCIJPCFG job, which was run with highest condition code RC= 00000
on 2017/07/27. In most cases, if you change any KCIJPCFG
parameters, you will have to rerun the KCIJPCFG job and certain
subsequent PARMGEN configuration jobs.

Press ENTER to continue with KCIJPCFG changes.

Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Press Enter to continue through the following screens.  
TUTORIAL INFORMATIONOn the Include Products in this PARMGEN RTE panel, change the **Confirm ==> N** field to **Confirm ==> Y** to continue.

The following panel is displayed:

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----
Command ==>

If you changed any JVM RTE configuration values on the
"SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation
panels, or changed the configured product mix or upgraded product
versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs.
You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the
resubmission and refresh process. A default backup member is provided.
Blank-out the field if you do not want to refresh the profiles.

  DEMO Backup member name  ==>  _____  (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in
TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK* datasets,
rebuilds the profiles with the new values, merges in the profiles values
from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.
```

- e. Enter a name for the profile backup member.  
The modified KCIJPCFG job is displayed.
  - f. Submit the job.  
The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Regenerate the RTE members and jobs.
    - a. Select **Create the RTE members and jobs**.  
The **\$PARSE /\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
    - b. Select option 1 to submit the composite job.  
TUTORIAL INFORMATION If the updates affect only one set of libraries, you can submit the library-specific job instead of the composite job. Press F5 to create runtime members and jobs in an individual library (WKANCMDU, WKANPARU, or WKANSAMU).  
  
The \$PARSE job takes the product templates from the %RTE\_PLIB\_HILEV%.%RTE\_NAME%. IK\* staging libraries, applies the customized values from the configuration profiles, and creates the runtime members in the work libraries (WK\*).
    - c. Return to the main Workflow panel.
  3. Submit the jobs to complete the setup of the RTE.
    - a. Select **Submit batch jobs to complete PARMGEN setup**.  
The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUVP
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs      (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might have to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON® for IMS™ on z/OS® is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

**Result**

The new product features are implemented and the defaults are in effect.

**Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults**

Typically, configuration changes introduced by upgrade FMIDs are delivered as benign, and IBM-supplied configuration defaults are supplied. However, you might need to edit the configuration profiles to exploit a new features or to set custom values for new parameters.

**About this task**

There are four main steps involved in this scenario:

1. Refreshing the work libraries.
2. Editing profiles and overriding embed members, as necessary.
3. Regenerate thing RTE members and jobs.
4. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and copy the updated work libraries to the user runtime libraries (KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data.

**Tip:** Each site has different change-control procedures. Certain sites deploy these types of changes by renaming the current production RK\* libraries to a backup set like RK\*.Dyymdd, then renaming the latest WK\* set to RK\*. Sample backup and deployment jobs WKANSAMU(KCIJPCPR) and WKANSAMU(KCIJPW2R) provide helpful samples.

## Procedure

1. Refresh the work libraries.  
This step backs up (renames) the existing LPAR profile, updates the interim libraries, recreates the configuration profiles with any new parameters, and merges the backup profile with the newly created one.
  - a. Select the runtime environment to which you want to apply maintenance.
  - b. From the Workflow - Primary Options Menu, select Set up PARMGEN work environment for an RTE to regenerate and resubmit the KCIJPCFG job.  
The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Step through the presented panels by pressing Enter to accept the current configuration values.  
(On the Include Products in this PARMGEN RTE panel, enter y to confirm the current choices.)  
After you confirm the current product selection, you are prompted to provide a name for the backup copy of the RTE profile.

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----  
Command ==>
```

If you changed any JVM RTE configuration values on the "SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation panels, or changed the configured product mix or upgraded product versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs. You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the resubmission and refresh process. A default backup member is provided. Blank-out the field if you do not want to refresh the profiles.

```
DEMO Backup member name ==> _____ (Required for KCIJPPRF)
```

PARMGEN automatically backs up the RTE profile in TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK\* datasets, rebuilds the profiles with the new values, merges in the profiles values from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

- e. Enter a name for the profile backup member.  
The KCIJPCFG job is displayed.
  - f. Review the notes, then submit the job.  
The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Edit profiles and override embeds to customize new features or parameters as required.
    - a. Select **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members** panel is displayed.
    - b. Select the RTE, global, and variables profiles in turn as necessary and make the required customizations. If required, edit the appropriate embed members.

#### Tips:

- In a scenario where you have also added a new product to configure to this runtime environment, ensure that you also customize the new product's *Kpp\_\** PARMGEN profile parameters added into the refreshed RTE configuration profile.
- Compare the updated \$CFG\$IBM and \$GBL\$IBM to your customized profiles to determine what parameters have changed or been added.
- Update or customize any new or modified embed files as desired.

3. Regenerate the RTE members and jobs.
  - a. Select **Create the RTE members and jobs**.  
The **\$PARSE /\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
  - b. Select option 1 to submit the composite job.  
  
TUTORIAL INFORMATION If the updates affect only one set of libraries, you can submit the library-specific job instead of the composite job. Press F5 to create runtime members and jobs in an individual library (WKANCMU, WKANPARU, or WKANSAMU).  
  
The \$PARSE job takes the product templates from the %RTE\_PLIB\_HILEV%.%RTE\_NAME%. IK\* staging libraries, applies the customized values from the configuration profiles, and creates the runtime members in the work libraries (WK\*).
  - c. Return to the main Workflow panel.
4. Submit the batch jobs necessary to complete the set up of the environment:
  - a. Select **Submit batch jobs to complete PARMGEN setup**.  
The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs    (Yes) KCIJPLOD
4. Run product security steps                (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUVP
6. (Re)Create USS runtime mbrs in RKANDATV  (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs      (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might have to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON for IMS on z/OS is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

**Result**

The runtime environment is upgraded and any values you customized are in effect.

## Creating a new SMP/E environment for a staged upgrade of new or existing runtime environments

Instead of cloning an existing environment to begin your staged upgrade, you can install the new product and component versions into a new SMP/E environment and then configure new or existing runtime environments that contain the new versions.

**Procedure**

1. Install a ServerPac that contains the latest version of the Tivoli® Management Services on z/OS® components and of any OMEGAMON® products you want to upgrade.  
 TUTORIAL INFORMATION Make sure that the ServerPac contains all the products configured in the RTE, or they will not be included in the reconfigured RTE.  
 Follow the instructions in the *Program Directory for IBM® Tivoli® Management Services on z/OS®* and in the *Program Directory* for each OMEGAMON® product being installed.
2. Configure the new runtime environments with the installed components and products.  
 TUTORIAL INFORMATION  
 Follow the instructions in the appropriate [implementation scenario](#).
3. Complete any configuration required outside the configuration software.  
 TUTORIAL INFORMATION  
 You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:
  - [“Completing the configuration outside the configuration software” on page 522](#)
  - [“Completing the upgrade” on page 205](#)
  - The *Planning and Configuration Guide* for each product.

## Completing the upgrade

After you have completed the configuration steps for the appropriate upgrade scenario, there are additional steps you may need to complete.

### OMEGAMON enhanced 3270 user interface

If you are enabling the enhanced 3270 user interface for the first time, the following steps must be completed:

1. Define the new started task user IDs to your STC table. The default name is IBMTOM.
2. Define the new VTAM APPLID for the enhanced user interface. The default name is CTDOBAP.
3. APF-authorize &rte\_hilev.&rte\_name.RKANMODP library, as this load library is included in the STEPLIB DDNAME of all started tasks.
4. Customize the KOB\* parameters as desired.
5. Add the new address space to the system PROCLIB and add its VTAM major node to the system VTAMLST. If you are using a global VTAM major node, refresh the global VTAM major node with the user interface's VTAM LOGON APPLID.  
 In PARMGEN, the KCIJPSYS job is available to perform these steps.

In a PARMGEN upgrade, steps 1-3 are done automatically (and step 5 if the KCIJPSYS job is run).

After you have completed configuration, run the appropriate load job and recycle started tasks in the upgraded runtime environment.

## Upgrade scenarios

You can use the PARMGEN configuration method to upgrade products in a runtime environment that already contains a previous version of the products. Choose the upgrade scenario that fits your existing configuration and your upgrade plans.

The upgrade scenarios are based on the assumption that the new version of the Tivoli Management Services on z/OS components and the OMEGAMON® products have already been installed with SMP/E. (See [“SMP/E installation” on page 195](#).)

### Scenario A: Upgrading the z/OS® monitoring server only

You can upgrade a z/OS Tivoli Enterprise Monitoring Server in an existing PARMGEN runtime environment (RTE).

#### About this task

To upgrade just the monitoring server in a PARMGEN RTE, follow the steps in “Scenario RTE02: Upgrading a single product or component in an existing runtime environment” on page 206. On the Include Products in this PARMGEN RTE panel (KCIP@PGI), deselect all products except for the monitoring server (KDS).

## Scenario RTE02: Upgrading a single product or component in an existing runtime environment

If the runtime environment (RTE) is pointing to the target libraries where the new version is SMP/E installed, the product is automatically upgraded when you refresh the work environment.

### Procedure

1. Refresh the PARMGEN work environment to include the latest installed version of the product. This step updates interim libraries and recreates the configuration profiles with any new parameters introduced by the upgrade.
  - a. Identify the RTE in which you want to upgrade the product by specifying the fully-qualified name of the RTE (**RTE\_PLIB\_HILEV** and **RTE\_NAME**).
  - b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.  
The following message is displayed, notifying you that you need to resubmit the modified KCIJPCFG job:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
    - d. Press Enter until the Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed.  
The products already configured into the environment are indicated by a slash. However, the version currently installed in the target libraries is displayed, not the version currently configured. If the versions are different, the product is upgraded to the version shown when you submit the KCIJPCFG job.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE
```

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.  
Select or deselect products to include or exclude from configuration.  
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

```
  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRQ Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

- e. Specify Y in the **Confirm ==>** field to confirm the current selection of products, then press Enter to continue.

The following panel is displayed:

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----
Command ==>
```

If you changed any JVM RTE configuration values on the "SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation panels, or changed the configured product mix or upgraded product versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs. You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the resubmission and refresh process. A default backup member is provided. Blank-out the field if you do not want to refresh the profiles.

DEMO Backup member name ==> \_\_\_\_\_ (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK\* datasets, rebuilds the profiles with the new values, merges in the profiles values from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

- f. Type a name for the profile backup member and press Enter.  
The modified KCIJPCFG job is displayed.
- g. Submit the job.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the libraries and merges the backed up profile with the newly generated one containing the new version of the product. Wait until both jobs have completed and you receive a successful return code before proceeding to the next step.
2. The next steps depend on whether or not you have configuration changes to make:
- If you do not need to make any further configuration changes (for example, you can use the product defaults and no new features need to be configured), regenerate the RTE members and jobs by submitting the \$PARSE (or \$PARSESV) job and submit the jobs that complete the setup of the RTE.

- If you want to exploit new configuration changes (such as enabling the self-describing agent feature) or override the product-supplied configuration defaults, edit the configuration profiles as necessary. Then regenerate the RTE members and jobs by submitting the \$PARSE (or \$PARSESV) job and submit the jobs that complete the setup of the RTE.
- At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD job) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R jobs). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data..

## What to do next

Select the **Perform post configuration steps** in the PARMGEN Workflow - Primary Option Menu to the readmes for the installed products. See also the *Planning and Configuration Guide* for the upgraded product for any configuration steps that need to be completed outside the configuration software.

## Scenario B: Upgrading the z/OS monitoring server and monitoring agents

In this scenario, you are upgrading the monitoring server to V6.3.0 Fix Pack 6 and upgrading one monitoring agent or more in the runtime environment to the latest versions installed at the same time.

### Before you begin

If you do not plan to enable the self-describing agent (SDA) capability, you must upgrade the hub monitoring server before you upgrade a remote monitoring server that reports to it. If you intend to use SDA, and the runtime environment of hub monitoring server is already at Tivoli Management Services V6.3.0 FP6, the agent upgrades can start at a remote monitoring server.

### About this task

Upgrade the z/OS monitoring server and one monitoring agent or more in an existing PARMGEN runtime environment. Take the following upgrade path for Scenario B using the PARMGEN configuration method, as described below.

### Procedure

- To upgrade your Tivoli Enterprise Monitoring Server to V6.3.0 Fix Pack 6 and the monitoring agents to the latest version installed, complete one of the following scenarios:
  - [“Scenario SMPE04: Upgrading an existing runtime environment with no configuration changes” on page 197](#)
  - [“Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults” on page 199](#)
  - [“Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults” on page 201](#)

## Scenario C: Upgrading a z/OS® monitoring server and adding a new monitoring agent

In this scenario, you are upgrading an existing z/OS® monitoring server to V6.3.0 FP6 and adding a new V5.5.0 monitoring agent monitoring agent to the RTE.

### Before you begin

If you do not plan to enable the self-describing agent (SDA) capability, you must upgrade the hub monitoring server before you upgrade a remote monitoring server that reports to it. If you intend to use SDA, and the runtime environment of hub monitoring server is already at Tivoli Management Services V6.3.0 FP6, the agent upgrades can start at a remote monitoring server.

### About this task

Upgrade the z/OS® monitoring server in an existing PARMGEN RTE and add new monitoring agent. To upgrade your Tivoli Enterprise Monitoring Server to V6.3.0 (or later) and add a new in an existing PARMGEN environment, complete [“Scenario RTE01: Adding a new product to an existing PARMGEN runtime environment” on page 209](#). Products already configured in the environment, including the Tivoli Enterprise Monitoring Server,

are indicated by a slash (/) and are upgraded to the new version installed in the SMP/E target libraries unless they deselected.

## Scenario RTE01: Adding a new product to an existing PARMGEN runtime environment

You have an existing runtime environment (RTE) to which you want to add a new product. The product is SMP/E installed, but it is not yet configured in the RTE.

### About this task

The key to adding a new product to an existing RTE is the Include Products in this PARMGEN RTE panel (KCIP@PGI). You regenerate the KCIJPCFG setup job and add the new product by selecting it on the Include Products panel. After you submit the job, the RTE configuration profile is updated with the parameters for that product. Then, you can customize those parameters by editing the profile. You run the \$PARSE job to recreate the runtime members and jobs, and then resubmit the jobs to complete the reconfiguration of the RTE with the new product.

### Procedure

1. Recreate the work environment.

This step adds the new product, updates interim libraries, and recreates the configuration profiles with any new parameters for the new product.

- a. Select the RTE to which you want to add the product by providing the fully-qualified RTE name (RTE\_PLIB\_HILEV and RTE\_NAME).
- b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.

The following message is displayed, notifying you that you need to resubmit the modified KCIJPCFG job after you make changes:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Press Enter until the Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed.  
Any products already configured into the environment are indicated by a slash (/).
- e. Select the new product you want to include by typing a slash (/) next to its product code.  
In the following example, a monitoring server, the OMEGAMON® enhanced 3270 user interface, and all of the OMEGAMON® products except OMEGAMON® for Storage are already configured in the runtime environment. To add OMEGAMON® for Storage, a slash is placed next to KS3.

```

----- INCLUDE PRODUCTS IN THIS PARMGEN RTE - Row 1 to 19 of 26
Command ==> Scroll ==> PAGE

Select (/) product(s) to CONFIGURE those product(s) in RTE=PLB1SP13
Products configured in the model RTE have been preselected (/).
Select or deselect products to include or exclude from configuration.

When finished, change "N" to "Y" to confirm selections. Confirm ==> N (Y, N)

  Kpp Product Name/Version
-----
_ KAH System Automation Monitoring Agent V350
_ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
_ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
_ KD5 OMEGAMON® AI for Db2 V610
_ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
_ KJJ OMEGAMON for JVM V540
_ KMC OMEGAMON for Messaging - WebSphere MQ Configuration V730
/ KMQ OMEGAMON for Messaging - MQ V750
_ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
_ KOB OMEGAMON Enhanced 3270 User Interface V750
_ KQI OMEGAMON for Messaging - Integration Bus V750
_ KRG Advanced Audit for DFSMSHsm Agent V260
_ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
_ KRJ Advanced Allocation Management Agent V330
_ KRK Automated Tape Allocation Manager for z/OS Agent V330
_ KRN Advanced Catalog Management Agent V260
_ KRV Advanced Backup and Recovery for z/OS Agent V240
_ KRW Tape Optimizer for z/OS Agent V220
_ KS3 OMEGAMON for Storage V540
_ KYN ITCAM for Application Diagnostics, TEMA V710.03
/ KS3 IBM® OMEGAMON® for Storage on z/OS® V540
_ KW0 IBM Tivoli OMEGAMON DE on z/OS - OMEGAVIEW and OMEGAVIEW II V510
_ KYN ITCAM for Application Diagnostics on z/OS V710.03
End of data

```

- f. Type Y in the **Confirm ==>** field, then press Enter to continue.  
The following panel is displayed:

```

KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----
Command ==>

If you changed any JVM RTE configuration values on the
"SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation
panels, or changed the configured product mix or upgraded product
versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs.
You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the
resubmission and refresh process. A default backup member is provided.
Blank-out the field if you do not want to refresh the profiles.

  DEMO Backup member name ==> _____ (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in
TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK* datasets,
rebuilds the profiles with the new values, merges in the profiles values
from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

```

- g. Type a name for the profile backup member and press Enter.  
The modified KCIJPCFG job is displayed.
- h. Submit the job.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the libraries and merges the backed up profile with the newly generated one containing the new product parameters.
- i. Return to the Workflow - Primary Options Menu. Wait until both jobs have completed. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Edit the configuration profiles, as required.

TUTORIAL INFORMATION See the *Planning and Configuration Guide* and *Parameter Reference* for the new product for information on parameters that you might want to customize or features you might want to enable. Note that the new product inherits any global runtime environment parameters specified in the Set up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3), such as started task prefixes.

3. Recreate the RTE members and jobs.
  - a. From the Primary Options Menu, select **Create the RTE members and jobs**.  
The \$PARSE/\$PARSESV: Create the RTE Members and Jobs (KCIP@PRS) panel is displayed.
  - b. Select option 1 to submit the generated \$PARSE or \$PARSESV composite job.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status    Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information.  Type UTIL to access utility menu.
```

Note that you see the second option only if the RTE is enabled for variables.

The \$PARSE or \$PARSESV member is presented.

- c. Review the member for any jobs that need to be submitted manually, then submit the job.  
Return to the Workflow - Primary Options Menu.
4. Submit the batch jobs to complete reconfiguration of the RTE.

- a. From the Primary Options Menu, select **Submit batch jobs to complete PARMGEN setup**.  
The Submit batch jobs to complete PARMGEN setup (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name   Status    Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** OI **
2. Allocate runtime R0 and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* R0 libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSP
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPVIP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

- b. Select option 1 to submit the KCIJPSUB composite submit job, or select the other options to submit each job separately.  
If you select option 1, first review the KCIJPSUB job, and edit the job according to which of the conditional jobs can to be submitted automatically.

- c. Check for good condition codes.

**Note:** The WSUPERC step will encounter an informational condition code of 4 if OMEGAMON® AI for Db2 is not configured in this runtime environment as there are no xKD2\* libraries to compare.

- d. If you do not receive good condition codes, review the resulting output:
  - \$IVPRPT report, which is stored in the WCONFIG library
  - WSUPERC SYSTSPRT report, which is stored in the WSUPERC sequential library

Correct any errors, and rerun any jobs that did not complete successfully.

## What to do next

See the *Planning and Configuration Guide* for the new product to complete any configuration steps required outside the configuration software.

## Scenario D: Upgrading monitoring agents in an existing runtime environment without a z/OS® monitoring server

Use this scenario if you already upgraded the Tivoli Management Services on z/OS components and want to upgrade stand-alone monitoring agents in an existing runtime environment that does not contain a z/OS® monitoring server.

For example, use the scenario for upgrading an OMEGAMON for CICS monitoring agent to V5.5.0 in an existing runtime environment with no monitoring server.

### About this task

Take the following path for Scenario D using the PARMGEN configuration method:

### Procedure

- Upgrade the monitoring agents in an existing runtime environment without a z/OS® monitoring server in an existing PARMGEN RTE.  
To upgrade monitoring agents using the PARMGEN-to-PARMGEN upgrade path, complete [“Scenario RTE02: Upgrading a single product or component in an existing runtime environment”](#) on page 206.  
Make the following adjustments:
  - On the Include Products in this PARMGEN RTE panel (KCIP@PGI), deselect any installed products that you do not want to add or upgrade. Products already configured in the environment are indicated by a slash (/). If newer versions are installed in the target SMP/E libraries, and you do not exclude these products, they are upgraded.

## Scenario E: Upgrading additional products in an upgraded environment

You have already upgraded the monitoring server to V6.3.0 Fix Pack 6 and upgraded the monitoring agents to the most recent version. Now new versions are available for some of the products and you want to upgrade those agents.

### About this task

To upgrade additional products in an already upgraded PARMGEN RTE, complete [“Scenario RTE02: Upgrading a single product or component in an existing runtime environment”](#) on page 206. On the Include Products in this PARMGEN RTE panel (KCIP@PGI), any of the installed products already configured in the RTE are indicated by a slash. The version currently installed in the target libraries is displayed, not the version currently configured. If the versions are different and you do not deselect the product, the product is upgraded to the version shown when you submit the KCIJPCFG job.

---

# Configuring products and components on z/OS

Configure OMEGAMON® products and their common framework components on z/OS®.

Configuration of OMEGAMON® products and their common framework components on z/OS® is based on the concept of a runtime environment, or RTE. An RTE consists of all the parts (data sets, parameters, start task JCL, and so on) required to run the configured products and framework components on a single z/OS® LPAR.

You can use IBM Z Monitoring Configuration Manager (Monitoring Configuration Manager or Configuration Manager) or Parameter Generator (PARMGEN) to configure, replicate, maintain, and update RTEs.

**Important:** To facilitate your configuration experience, make sure to review [“Best practices for configuring OMEGAMON products and components” on page 213](#).

## What's new

For information about recent updates to Configuration Manager and PARMGEN, see [“What's new in Tivoli Management Services on z/OS configuration software” on page 22](#).

**Note:** Previous updates are described in [“What's new in Monitoring Configuration Manager \(previous updates\)” on page 1448](#) and [“What's new in PARMGEN \(previous updates\)” on page 1449](#).

---

## Best practices for configuring OMEGAMON products and components

Follow these guidelines to facilitate your experience when configuring OMEGAMON products and components.

When configuring your OMEGAMON products and components, you can use either of the two available configuration tools: IBM Z Monitoring Configuration Manager (Monitoring Configuration Manager or Configuration Manager) or Parameter Generator (PARMGEN).

### PARMGEN or Configuration Manager?

IBM Z® Monitoring Configuration Manager evolved from PARMGEN.

You can use either Configuration Manager or PARMGEN to configure runtime environments for the supported OMEGAMON products and components, and both tools use mainly the same parameters.

Although you can achieve the same results using either tool, Configuration Manager provides a significantly improved and simplified process of configuring your runtime environments when compared with PARMGEN.

If you are a new user, use Configuration Manager.

If you are a PARMGEN user, consider moving to Configuration Manager, by methodically migrating your runtime environments from PARMGEN to Configuration Manager.

For more information about moving from PARMGEN to Configuration Manager, see the following topics:

- [“Rectifying your PARMGEN configuration” on page 516](#)
- [Configuration Manager: Comparison with PARMGEN](#)
- [Configuration Manager: Parameters with different default values than PARMGEN](#)
- [Configuration Manager: MIGRATE](#)

### Best practices for configuration

Regardless of which configuration tool you are using, Configuration Manager or PARMGEN, there are some basic guidelines that will help you to maintain a clean and problem-free configuration for your runtime environment.

The following best practices apply when using either Configuration Manager or PARMGEN:

- Before any configuration update, review the latest enhancements to the configuration tools. See [“What's new in Tivoli Management Services on z/OS configuration software” on page 22](#).

- Update the configurable parameters for your runtime environment by using the configuration tool only; do not attempt to modify any of the underlying configurable members directly. Such updates can cause problems when applying maintenance or upgrading products within a runtime environment.

**Important:** If you make manual modifications to your runtime libraries (RK\*), you will lose your configuration changes when you run the Configuration Manager **GENERATE** action or the PARMGEN \$PARSE jobs.

**Note:** If you are using PARMGEN to maintain your runtime environments, there are steps you can take to make sure that no manual modifications exist in your configuration. For more information, see [“Rectifying your PARMGEN configuration” on page 516](#).

- Configure your runtime environment parameters only in the supported data sets. For Configuration Manager, use members in the RTEDEF data set; for PARMGEN, use the WCONFIG data set.
- Use override embed members when you cannot apply a setting using a standard parameter. Use of embed members for override parameters prevents parameter settings from being overwritten during maintenance or upgrades. For more information, see the following topics: [“Override embed members” on page 417](#), [“Customizing the override embed members” on page 471](#), [“Using override embed members in Configuration Manager” on page 337](#).

## Configuration Manager

IBM Z® Monitoring Configuration Manager, also known as Monitoring Configuration Manager or Configuration Manager, is a tool that configures an OMEGAMON runtime environment from a set of parameters that you specify.

## Products supported by Configuration Manager

These products and components can be configured using Monitoring Configuration Manager, regardless of the product being part of a suite or pack offering or purchased as a stand-alone point product.

Each product or component is listed with its corresponding code.

<i>Table 24: Products supported by Configuration Manager</i>		
Product or component	Version	Code
Tivoli Enterprise Monitoring Server	6.3	DS
OMEGAMON® Enhanced 3270 User Interface	7.5	OB
IBM® OMEGAMON® Dashboard Edition on z/OS	5.5	WO
IBM Z® OMEGAMON® Integration Monitor	5.6	WO
IBM Z® OMEGAMON Data Provider	1.1	AY
IBM OMEGAMON® for CICS® on z/OS	5.5	C5
IBM Z OMEGAMON for CICS	5.6	CICS TS: C5, CICS TG: GW
IBM Z OMEGAMON AI for CICS	6.1	CICS TS: C5, CICS TG: GW
IBM Tivoli OMEGAMON® XE for Db2 Performance Expert on z/OS	5.4	D5
IBM Tivoli® OMEGAMON® XE for Db2® Performance Monitor on z/OS	5.4	D5
IBM OMEGAMON® for Db2 Performance Expert on z/OS	5.5	D5
IBM Z® OMEGAMON® AI for Db2	6.1	D5
IBM OMEGAMON® for IMS on z/OS	5.5	I5
IBM Z® OMEGAMON® for JVM	5.5	JJ
IBM Z® OMEGAMON® Runtime Edition for JVM	5.5	JJ

Product or component	Version	Code
IBM Z® OMEGAMON® AI for JVM	6.1	JJ
IBM OMEGAMON® for Messaging on z/OS	7.5	MQ: MQ Integration Bus: QI
IBM OMEGAMON® for Networks on z/OS	5.5	N3
IBM Z® OMEGAMON® Network Monitor	5.6	N3
IBM Z® OMEGAMON® AI for Networks	6.1	N3
IBM OMEGAMON® for Storage on z/OS	5.5	S3
IBM Z OMEGAMON® AI for Storage	6.1	S3
IBM OMEGAMON® for z/OS	5.5	M5
IBM Z® OMEGAMON® Monitor for z/OS	5.6	M5
IBM Z® OMEGAMON® AI for z/OS®	6.1	M5
IBM Z® NetView Enterprise Management Agent	6.3	NA
IBM Z® NetView Enterprise Management Agent	6.4	NA
IBM Z® NetView Enterprise Management Agent	6.5	NA
IBM Tivoli Advanced Allocation Management for z/OS	3.3	RJ
IBM Tivoli Advanced Audit for DFSMShsm	2.6	RG
IBM Tivoli Advanced Backup and Recovery for z/OS	2.4	RV
IBM Tivoli Advanced Catalog Management for z/OS	2.6	RN
IBM Tivoli Advanced Reporting and Management for DFSMShsm	2.6	RH
IBM Tivoli Automated Tape Allocation Manager for z/OS	3.3	RK
IBM Tivoli® Composite Application Manager (ITCAM) for Application Diagnostics Agent	7.1.0	YN
IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics Agent	7.1.1	YN

**Note:** You can use Configuration Manager to produce a list of installed products at your site. For more information, see [“Products installed report \(REPORT\)” on page 277](#).

For links to the documentation for these products, see [Where to find information](#).

## Introduction to Configuration Manager

IBM Z® Monitoring Configuration Manager, also known as Monitoring Configuration Manager or Configuration Manager, is a tool that configures an OMEGAMON runtime environment from a set of parameters that you specify.

A runtime environment (RTE) consists of the started tasks and related members, including MVS™ data sets and z/OS® UNIX® System Services files, that are required to monitor subsystems on a z/OS® LPAR. These started tasks and related members are collectively known as *runtime members*.

To generate the runtime members for a runtime environment, you configure a set of parameters, and then you run a single Monitoring Configuration Manager job. Parameters are name-value pairs stored as plain text. The following figure illustrates this basic concept:

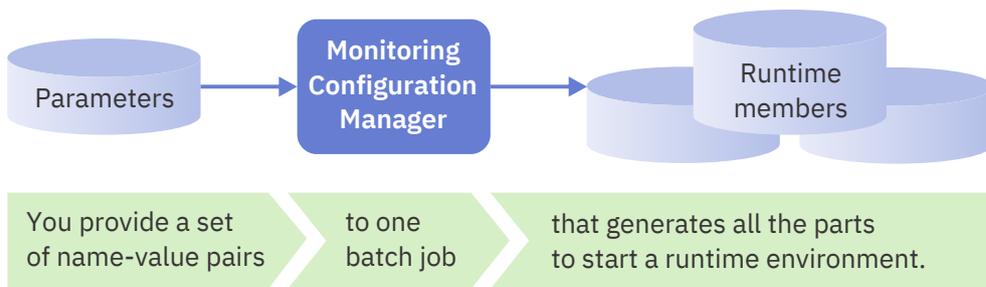


Figure 12: The basic concept: parameters in, one job, runtime members out

Generating runtime members from parameters is the main purpose of Monitoring Configuration Manager. This is known as the **GENERATE** action.

Monitoring Configuration Manager can also perform other actions:

- The **CREATE** action creates an initial set of parameters for a runtime environment.
- The **DISCOVER** action discovers subsystems on an LPAR, and then creates corresponding parameters to configure a runtime environment to monitor those subsystems.
- The **DELETE** action deletes the runtime members for a runtime environment.

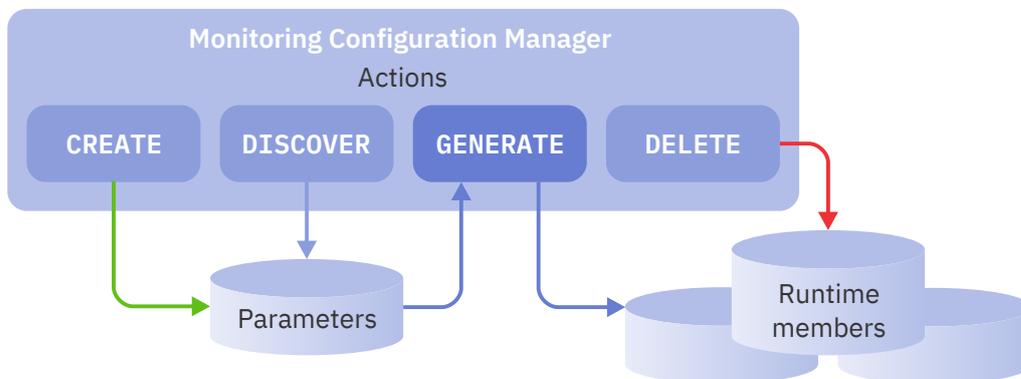


Figure 13: Actions

In addition to the actions shown in the diagram:

- The **MIGRATE** action imports existing PARMGEN RTE configuration settings from a specific WCONFIG member.
- The **PACKAGE** and **DEPLOY** actions support a convenient rollout from a single LPAR to other runtime environments.

## Comparison with PARMGEN

IBM Z® Monitoring Configuration Manager evolved from PARMGEN. If you understand PARMGEN, then a comparison can help you to quickly understand Monitoring Configuration Manager.

You can use either Monitoring Configuration Manager or PARMGEN to configure runtime environments for the supported OMEGAMON agents. Monitoring Configuration Manager and PARMGEN use mainly the same parameters. However, Monitoring Configuration Manager radically simplifies the process of configuring runtime environments from those parameters.

### You must decide whether to use Monitoring Configuration Manager or PARMGEN

You can use Monitoring Configuration Manager to generate runtime members for some runtime environments, PARMGEN for others, and run them in the same monitoring topology, communicating with the same hub monitoring server. In that sense, you can use Monitoring Configuration Manager and PARMGEN alongside each other.

However, you cannot use Monitoring Configuration Manager and PARMGEN interchangeably to generate runtime members for a runtime environment from the same set of parameters. For each runtime environment, you must decide whether to use Monitoring Configuration Manager or PARMGEN.

**Note:** You can move PARMGEN data to Configuration Manager using the **MIGRATE** action.

## Overview

The following table provides an overview of the differences between Monitoring Configuration Manager and PARMGEN.

<i>Table 25: Monitoring Configuration Manager versus PARMGEN: overview</i>	
<b>Monitoring Configuration Manager</b>	<b>PARMGEN</b>
<u>Batch-only interface.</u>	Combination of ISPF user interface and batch. You navigate ISPF panels to select which job to submit.
The same simple, concise JCL for all actions.	Different jobs for different actions. Complex, long JCL. JCL members tailored for each runtime environment must be created, stored, and potentially recreated, depending on the situation.
To generate runtime members from parameters, you submit <b>one job</b> .	To generate runtime members from parameters, you use ISPF panels to submit <b>a series of jobs</b> . Some jobs submit other jobs. You need to check the output from each job, and then return to the ISPF panels to submit the next job in the series.
To generate runtime members, you submit the same job in all situations. Enhancements introduced by Monitoring Configuration Manager, including performance improvements and the streamlining of previously separate stages into a single job, removes the need for users to decide which stages to run in different situations.	You need to understand which job, or series of jobs, to submit in different situations. For example, you need to understand which jobs to run to update a runtime environment after applying SMP/E maintenance to your OMEGAMON agents.
You only need to know about the input parameters and the output runtime members. Monitoring Configuration Manager insulates you from the underlying complexity.	In addition to understanding the inputs and outputs, you also need to understand the details of the process that generates runtime members. For example, you need to understand the difference between interim staging (IK*) libraries, work (WK*) libraries, and the final output runtime (RK*) libraries. You also need to understand which stages of the process, and which jobs, affect each of those libraries.
Sparse configuration profiles containing only the parameters you need. The initial configuration profile members contain only <b>a few dozen parameters</b> . This is all you need to use basic functions if you are content with default parameter values.	Comprehensive configuration profiles containing all parameters for all agents. You edit a configuration profile member containing <b>hundreds of parameters</b> interspersed with multiline comments.
Integrated subsystem discovery.	Requires IBM® Discovery Library Adapter for z/OS® (DLA).

Monitoring Configuration Manager	PARMGEN
<p>Available for all agents of the IBM Z® Monitoring Suite and the IBM Z® NetView Enterprise Management Agent, as well as for IBM® OMEGAMON for z/OS version 5.5.0 or later, IBM® OMEGAMON for Networks on z/OS V5.5.0 or later, and IBM Z® OMEGAMON Integration Monitor V5.5.0 or later.</p> <p>In addition, support is provided for all agents that are part of the IBM Z Service Management Suite. This includes the same list of agents as above, except for Integration Monitor.</p> <p>Point product installations are also supported for the aforementioned agents/products.</p>	<p>Available with IBM Z® Monitoring Suite and other products.</p>

### Details

The following table describes some differences in the implementation details between Monitoring Configuration Manager and PARMGEN.

For a comprehensive list of parameters that have different default values in Monitoring Configuration Manager and PARMGEN, see “Parameters with different default values than PARMGEN” on page 292.

Text in *italics* represents a parameter value. For example, *rte\_plib\_hilev* represents the value of the **RTE\_PLIB\_HILEV** parameter.

Table 26: Monitoring Configuration Manager versus PARMGEN: details

Monitoring Configuration Manager	PARMGEN
<p>Stores <u>parameters</u> and <u>variables</u> in: <i>rte_plib_hilev</i>.RTEDEF</p> <p>Each RTEDEF library can contain definitions for multiple runtime environments, customized to run on multiple LPARs.</p> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The Configuration Manager <b>GENERATE</b> action creates an <i>rte_plib_hilev.rte_name</i>.WCONFIG(<i>rte_name</i>) member that is similar to the member created by PARMGEN, with one key difference: the member created by Configuration Manager contains default parameter values; it does not reflect the values in your RTEDEF library members. The WCONFIG data sets created by Configuration Manager, as a whole, should be considered a <i>black box</i>.</p> </div>	<p>Stores parameters in: <i>rte_plib_hilev.rte_name</i>.WCONFIG</p> <p>Each WCONFIG library contains the definition for a single runtime environment, with limited flexibility to customize that definition to run on multiple LPARs.</p> <p>Stores variables in: <i>gbl_user_jcl</i></p>
<p>Organizes parameters into members according to their prefix and whether they apply to all LPARs or only to a specific LPAR.</p> <p>Provides a well-defined <u>member naming convention</u> so you know which parameters to store where and which parameters take precedence.</p> <p>Similarly, Monitoring Configuration Manager organizes variables into members that enable different values for each LPAR.</p> <p>You can configure a runtime environment using a combination of parameters that are common to all LPARs and parameters that apply only to a specific LPAR.</p>	<p>Mixes runtime environment (<b>RTE_*</b>) parameters and product-specific (<b>Kpp_*</b>) parameters in a single large member, WCONFIG(<i>rte_name</i>).</p> <p>You can divide this monolithic member into smaller members, but you need to manage this yourself for each runtime environment. You need to define your own member naming convention, and then edit the WCONFIG(\$SYSIN) member to include the members in PARMGEN processing and define their order of precedence.</p> <p>No built-in support for LPAR-specific parameter values beyond using variables, such as SYSNAME, that have LPAR-specific values.</p>

Monitoring Configuration Manager	PARMGEN
Enables you to define LPAR-specific parameter values without using variables.	Uses variables to customize configuration profiles for different LPARs.
Uses the parameters in the first row of a table as the defaults for subsequent rows. If you omit a parameter from a subsequent row, that row uses the value from the first row. This enables you to define more concise “sparse” parameter tables with less duplication of values.	You must specify parameter values for each row in a table of parameters.
By default, writes system library members to the same high-level qualifiers as other non-VSAM runtime members: <i>rte_hilev.SYS1.*</i> where * is the system library low-level qualifier: PROCLIB, VTAMLIB, or VTAMLST	By default, writes system library members directly to: SYS1.*
Writes concise started tasks with minimal comments.  <div style="border: 1px solid #add8e6; padding: 10px; margin: 10px 0;"><b>Tip:</b> Monitoring Configuration Manager writes concise started tasks to: <i>rte_hilev.SYS1.PROCLIB</i> and versions with verbose comments to the same location used by PARMGEN: <i>rte_plib_hilev.rte_name.RKANSAMU</i> <i>rte_plib_hilev.rte_name.RKD2SAM</i> (for Db2®)</div>	Writes started tasks with verbose comments.
Sets the default value of the <b>RTE_USS_DIR</b> parameter to <i>/var/rtehome</i> .	Sets the default value of the <b>RTE_USS_DIR</b> parameter to <i>/rtehome</i> , a subdirectory of the root directory. Creating a new subdirectory of the root directory is bad practice.
In the z/OS® UNIX® System Services file system, by default writes only to <i>rte_uss_dir/rte_name</i>	By default, writes to various z/OS® UNIX® directories.
Sets the default value of the <b>RTE_TYPE</b> parameter to SHARING and <b>RTE_SHARE</b> to SMP. By default, runtime environments refer to some runtime members, such as load modules, in the SMP/E installation target library, rather than creating a full copy of those members in the runtime environment's own runtime libraries.	Sets the default value of the <b>RTE_TYPE</b> parameter to FULL. By default, the runtime environment runtime members include a full copy of all members required from the SMP/E installation target library.
Provides the ability to create one or more copies of SMP/E target libraries from which you can create or update your runtime environments. Sharing with an SMP/E target in reality is sharing with an SMP/E target copy. The Configuration Manager <i>target copy</i> feature copies only the data sets needed for products that are selected for configuration into the target copy libraries.  For <b>RTE_SHARE</b> , you can only specify SMP for a sharing runtime environment. Configuration Manager does not use base runtime environments (as in PARMGEN).	Provides the ability to use a set of static base libraries in a base runtime environment from which a sharing-with-base runtime environment obtains read-only runtime libraries.  For <b>RTE_SHARE</b> , you can specify the name of base or full runtime environment from where a sharing runtime environment obtains its base library information, or you can specify SMP to share SMP/E target libraries.

## Preparing to use Configuration Manager

Review prerequisites and other considerations before you start using Configuration Manager.

This section provides information about the following items, which are prerequisites or should be considered before using Configuration Manager:

- You need to know where your SMP/E installation target library is located. See [Location of SMP/E installation target libraries](#).
- Consider the naming convention for your runtime environments. See [Naming your runtime environment](#).
- The TSO user ID that will be used to run Configuration Manager jobs needs some special access privileges. See [Access privileges for TSO user ID](#).
- Certain Configuration Manager functions require APF authorization or special RACF privileges. See [Authorization for certain Configuration Manager functions](#).
- Review other known issues. See [Issues to be aware of before using Configuration Manager](#).

### Location of SMP/E installation target libraries

You need to know where your target libraries are installed:

- On MVS™: The high-level qualifiers of the SMP/E target libraries, such as TKANMOD.
- On z/OS® UNIX® System Services:
  - For products that require it, such as OMEGAMON for CICS and OMEGAMON for JVM, the path of the SMP/E target directory that is defined in the SMP/E installation jobs by ddname TKANJAR. The default directory path is /usr/lpp/kan/bin/IBM.
  - For OMEGAMON® Data Provider, the path of the SMP/E target directory that is defined in the SMP/E installation jobs by ddname TKAYHFS. The default directory path is /usr/lpp/omdp.

Typical best practice is to make a copy of the original SMP/E-managed locations and refer to the copies. This enables you to manage when to introduce changes in the original SMP/E-managed locations into your environment.

### Naming your runtime environment

When you define your runtime environment, it is recommended to use a naming convention that will not interfere with your system libraries. Consider meaningful names that will easily distinguish and isolate your OMEGAMON runtime environments on your system.

Configuration Manager uses the values of **RTE\_NAME** and **RTE\_PLIB\_HILEV** to set the name of the runtime environment and runtime environment definition library. It is recommended that the combined length of these parameters does not exceed 28 characters. For more information, see [“Creating your first, minimal runtime environment” on page 222](#).

### Access privileges for TSO user ID

The TSO user ID that you plan to run Configuration Manager jobs (for example, your own user ID) must have the following access privileges:

- Read access to the target libraries and the z/OS® UNIX® directory defined by the TKANJAR ddname.
- Read access to the following z/OS® System Authorization Facility (SAF) resources in the FACILITY class:  
BPX.FILEATTR.APF  
BPX.FILEATTR.PROGCTL

You do not need z/OS® UNIX® superuser privileges to run Configuration Manager.

### Authorization for certain Configuration Manager functions

Some Configuration Manager programs and actions require APF authorization or special RACF privileges, as follows:

- To use actions **DISCOVER** (for full discovery), **PACKAGE**, and **DEPLOY**, you must run program **KCIALPHA** from an APF-authorized load library. Make sure the necessary APF authorization of the TKANMOD library is made. For more information about APF authorization, see step [“7” on page 228](#) in [Creating your first, minimal runtime environment](#).

- The **PACKAGE** and **DEPLOY** actions use z/OS DFSMSdss commands to implement remote deployment. You might need authority to run **ADDRSSU**, which is the program that is invoked when using DFSMSdss. For more information, see the authorization requirements in [“PACKAGE” on page 265](#).

### Issues to be aware of before using Configuration Manager

When using Configuration Manager, especially the **GENERATE** action, make sure the job does not use a Batch Optimization tool. These tools are known to exhaust below-the-line storage and fail the job with ABEND878-10.

## Defining the OMEGAMON® subsystem to z/OS®

Some OMEGAMON® monitoring agents depend on the OMEGAMON® subsystem. Before starting a runtime environment that contains any of these monitoring agents, you must define the OMEGAMON® subsystem to z/OS®.

### Before you begin

Check whether the OMEGAMON® subsystem has already been defined to z/OS®.

For example, issue the following **DISPLAY MVS™** system command to list subsystems:

```
D SSI
```

The default name of the OMEGAMON® subsystem is CNDL.

### About this task

IBM Z® Monitoring Configuration Manager does not depend on the OMEGAMON® subsystem. Defining the OMEGAMON® subsystem is not a prerequisite for using Monitoring Configuration Manager.

However, the OMEGAMON® subsystem *is* a prerequisite for starting some of the runtime environments that you create with Monitoring Configuration Manager.

The following OMEGAMON® monitoring agents depend on the OMEGAMON® subsystem:

- CICS® (optional)
- Db2®
- IMS
- Storage
- z/OS®

You must define the OMEGAMON® subsystem on each LPAR where you plan to start runtime environments that contain any of these monitoring agents.

When you create a runtime environment that contains one of these monitoring agents, the generated runtime members include a started task that starts the OMEGAMON® subsystem.

Optionally, you can configure your LPAR to start the OMEGAMON® subsystem whenever z/OS® restarts (IPL).

### Procedure

1. Copy the OMEGAMON® subsystem initialization module KCNDLINT from the target library TKANMOD to a library in the linklist.  
For example, SYS1.LINKLIB.
2. Refresh the library lookaside (LLA) library directory indexes.  
Issue the following **MODIFY MVS™** system command:

```
F LLA,REFRESH
```

3. Dynamically define the OMEGAMON® subsystem to z/OS®.  
Issue the following **SETSSI MVS™** system command:

```
SETSSI ADD,SUBNAME=CNDL,INITRTN=KCNDLINT,INITPARM='SSPROC=OMEGCN'
```

where:

- CNDL is the subsystem name.  
CNDL is the default value of the runtime environment parameter **RTE\_KCNSTR00\_SSID**.  
The values of **SUBNAME** and **RTE\_KCNSTR00\_SSID** must match.
- OMEGCN, the name of the procedure that initializes the subsystem, is the value of the runtime environment parameter **RTE\_CANSCN\_STC**.  
The default value of **RTE\_CANSCN\_STC** consists of the value of the **RTE\_STC\_PREFIX** parameter followed by the suffix CN. The value of **RTE\_STC\_PREFIX** in the initial set of parameters created by Monitoring Configuration Manager is OMEG (an abbreviation of OMEGAMON®).  
The **SSPROC** parameter of the **SETSSI** command and the runtime environment parameter **RTE\_CANSCN\_STC** must match.

If you do not want the subsystem address space to be started immediately, omit **INITPARM**.

4. Define the OMEGAMON® subsystem in the IEFSSNxx member of the SYS1.PARMLIB library.  
For example:

```
SUBSYS SUBNAME(CNDL) INITRTN(KCNDLINT) INITPARM('SSPROC=OMEGCN')
```

The **SETSSI** command in the previous step dynamically defines the subsystem so that it is available immediately. Defining the subsystem in the IEFSSNxx member defines the subsystem during z/OS® initialization (IPL), so that you do not have to reissue the **SETSSI** command after each IPL.

If you do not want the subsystem address space to be started at IPL, omit **INITPARM**.

## Creating your first, minimal runtime environment

If you are a first-time user of IBM Z® Monitoring Configuration Manager, creating a minimal runtime environment is a good place to start. This example consists of a z/OS® agent, a monitoring server, and an enhanced 3270 user interface. You can logon to the enhanced 3270 user interface to view data from the z/OS® agent.

### Before you begin

Read the [prerequisites](#) for using Monitoring Configuration Manager.

The [OMEGAMON® subsystem must be defined to z/OS®](#).

### About this task

Here is a diagram of the minimal runtime environment created by the following procedure:

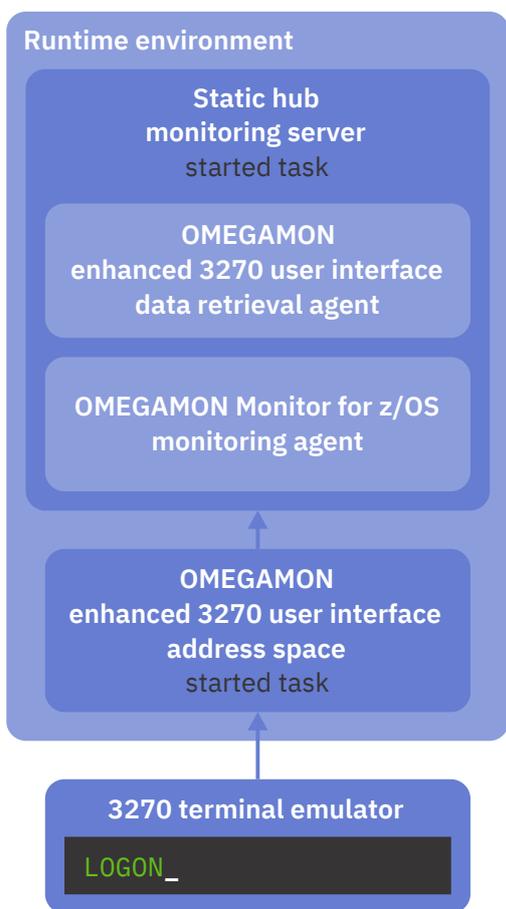


Figure 14: Overview of a minimal runtime environment

To create this minimal runtime environment, you follow the same procedure you would follow to create any runtime environment. The difference is that a minimal runtime environment involves setting fewer parameters, and involves fewer tasks to complete the configuration after running Monitoring Configuration Manager.

## Procedure

1. Submit a job that performs the **CREATE** action of Monitoring Configuration Manager. The **CREATE** action creates a runtime environment definition library, `rte_plib_hilev.RTEDEF`, and populates it with an initial set of parameters.

Example JCL:

Figure 15: Example JCL to perform the **CREATE** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION CREATE
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

Similar JCL is supplied in the KFJJMCM member of the TKANSAM target library.

**Note:** Refer to this sample member, KFJJMCM, for any updates to the parameters. Any new or changed parameters will be listed in this member and can be customized according to the action that you want to run.

Edit the example job statement to match your site's standards. For example, for job name, class, and message class. Consider changing the example job name prefix, UID, to your TSO user ID.

Replace the placeholders in the example JCL with appropriate values:

**<lpar>**

Run Monitoring Configuration Manager actions on the LPAR where you will start the runtime environment.

For example, if your site uses JES2, insert a **SYSAFF** job parameter after the **JOB** statement to ensure that the job runs on that LPAR.

**<tlib\_hlq>**

The high-level qualifiers of the target libraries.

**<rte\_name>**

Runtime environment name, 1 - 8 characters.

Monitoring Configuration Manager uses this name for various purposes, including:

- MVS™ member names
- MVS™ data set name qualifiers
- z/OS® UNIX® System Services directory name, all uppercase

**<rte\_plib\_hilev>**

The high-level qualifiers of the runtime environment definition library:

*rte\_plib\_hilev*.RTEDEF

Monitoring Configuration Manager uses the values of **RTE\_NAME** and **RTE\_PLIB\_HILEV** to set the default value of other parameters, such as **RTE\_HILEV** and **RTE\_VSAM\_HILEV**, that are used for data set names. To avoid exceeding the z/OS 44-character limit for data set names, the combined length of **RTE\_NAME** and **RTE\_PLIB\_HILEV** should not exceed 28 characters. For example, if **RTE\_NAME** is 8 characters, then **RTE\_PLIB\_HILEV** should not exceed 20 characters.

**Tip:** After running a Monitoring Configuration Manager job, check the KCIPRINT sysout data set.

2. Edit the parameters in the *rte\_plib\_hilev*.RTEDEF library to configure a static hub monitoring server, a z/OS® agent, and an enhanced 3270 user interface.

In the RTEDEF (*rte\_name*) member, set the following **CONFIGURE\_\*** parameters to Y:

**CONFIGURE\_TEMS\_KDS**

Configures a monitoring server (Tivoli® Enterprise Monitoring Server, or TEMS)

**CONFIGURE\_ZOS\_KM5**

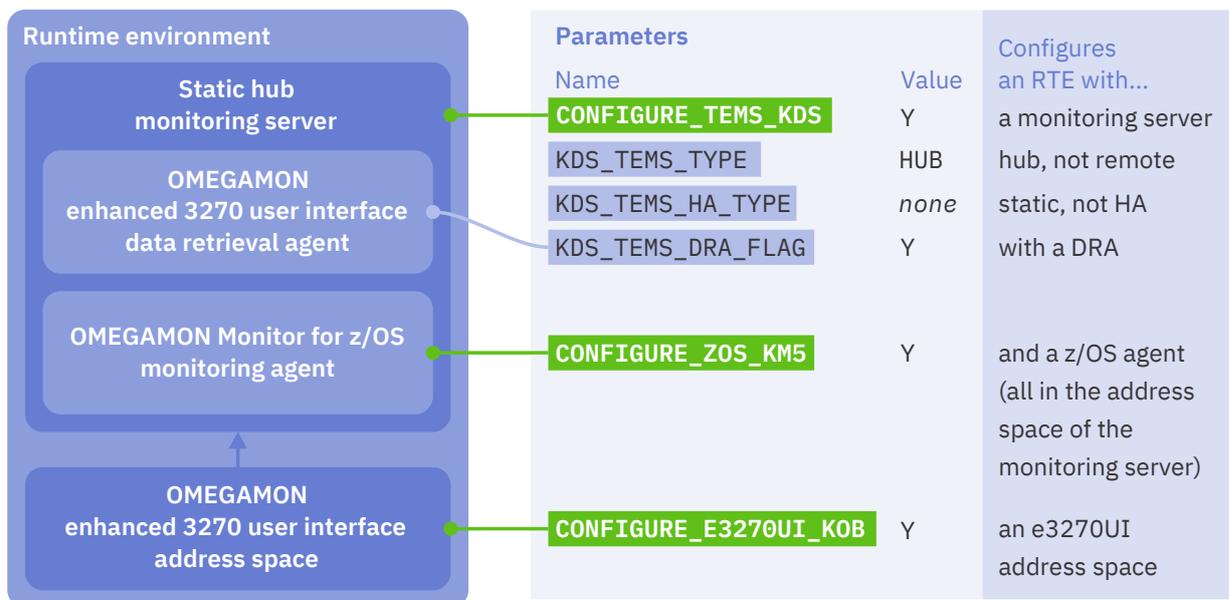
Configures a z/OS® monitoring agent

**CONFIGURE\_E3270UI\_KOB**

Configures an enhanced 3270 user interface address space

Either delete all other **CONFIGURE\_\*** parameters or set them to N.

The following diagram shows how these **CONFIGURE\_\*** parameters, and the default values of related parameters, configure the topology of the runtime environment:



Legend	
PARAMETER	value specified in the RTE configuration profile
PARAMETER	default value, does not need to be specified

Figure 16: CONFIGURE\_\* parameters for a minimal runtime environment

Also in the RTEDEF (*rte\_name*) member, set the following parameters to match your site-specific standards:

#### RTE\_STC\_PREFIX

1- to 4-character prefix of the started task names for this runtime environment. The value in the initial set of parameters is OMEG.

#### RTE\_VTAM\_APPLID\_PREFIX

Prefix of the VTAM® applids in this runtime environment. For this minimal runtime environment, there is only one VTAM® application: the enhanced 3270 user interface.

Each VTAM® application in a runtime environment has a corresponding parameter for the VTAM® applid. The default values of these parameters are the value of **RTE\_VTAM\_APPLID\_PREFIX** followed by an application-specific suffix.

In the initial set of parameters created by the **CREATE** action, the value of **RTE\_VTAM\_APPLID\_PREFIX** is *OMxx*, where *xx* is the value of the z/OS® static system symbol **SYSCONE**. **SYSCONE** is a 1- or 2-character shorthand notation for the system (LPAR) name. This value is one example of why you need to run Monitoring Configuration Manager actions on the LPAR where you will start the runtime environment.

If you use these values, then the default VTAM® applid for the enhanced 3270 user interface is *OMxxOBAP*. For example, if the system (LPAR) name is ZOS1, then the VTAM® applid is *OMS1OBAP*.

#### RTE\_USS\_RTEDIR

The path of the z/OS® UNIX® directory where you want Monitoring Configuration Manager to write runtime files required by the started tasks.

The TSO user ID that runs Monitoring Configuration Manager jobs must have permission to write to this directory, otherwise the **GENERATE** action will fail.

#### RTE\_TCP\_PORT\_NUM

The TCP/IP port number on which the monitoring server will listen.

**Tip:** Later steps in this procedure describe how to activate VTAM® resources and APF-authorize libraries. If you insert the parameter `RTE_X_STC_INAPF_INCLUDE_FLAG` in the RTEDEF (`rte_name`) member, then the started tasks include a member that performs these steps for you.

In the RTEDEF (GBL\$PARM) member, set the following parameter:

#### GBL\_HFS\_JAVA\_DIR1

The z/OS® UNIX® path of the Java™ home directory.

The following diagram shows parameters that configure identifiers and values used by the runtime environment. Notice how the RTE parameters determine the default values of other parameters. For example, the default value of the `KDS_TEMS_STC` parameter is the value of `RTE_STC_PREFIX` followed by the suffix DS.

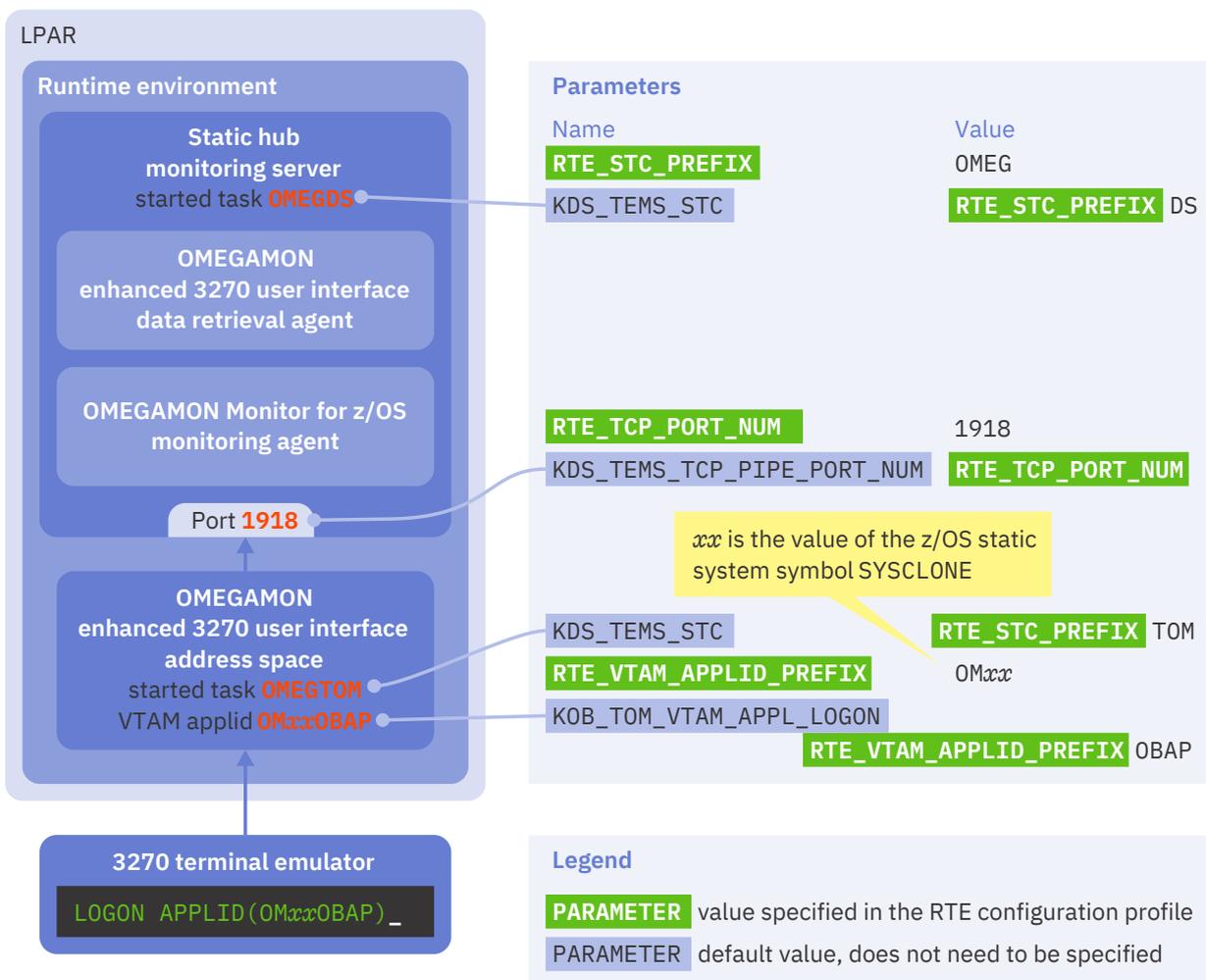


Figure 17: Parameters that specify z/OS®-related identifiers for a minimal runtime environment

- Submit a job that performs the **DISCOVER** action. The **DISCOVER** action discovers CICS® regions, Db2® subsystems, IMS control regions, MQ subsystems, TCP/IP stacks, and System Symbols, and then writes corresponding members to the RTEDEF library.

Strictly speaking, for this minimal runtime environment, you can skip this step, because this runtime environment will run only the z/OS® agent, which does not require any subsystem parameters. However, performing the **DISCOVER** action is still a useful exercise, because it prepares the RTEDEF library for extending the runtime environment to run other agents.

Reuse the same JCL as before, with the following changes:

[1]

Optionally, change the program name in the JCL **EXEC** statement to KCIALPHA.

KCIALPHA is an APF-authorized version of KCIOMEGA. APF-authorization enables the program to discover more subsystem details.

[2]

Change the action to **DISCOVER**.

Example JCL:

Figure 18: Example JCL to perform the **DISCOVER** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KICIALPHA,REGION=0M,DYNAMNBR=256 [1]
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION DISCOVER [2]
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

4. Submit a job that performs the **GENERATE** action.  
Reuse the same JCL as before, with the following changes:

[1]

If you changed the program name to KICIALPHA for the **DISCOVER** action, change it back to KCIOMEGA before performing the **GENERATE** action.

[2]

Change the action to **GENERATE**.

Example JCL:

Figure 19: Example JCL to perform the **GENERATE** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256 [1]
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION GENERATE [2]
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

The **GENERATE** action generates the runtime members for the runtime environment, including the started tasks.

You have completed the steps that involve the configuration software, Monitoring Configuration Manager.

The remaining steps complete the configuration of the runtime environment *outside* of the configuration software.

These “complete the configuration” steps depend on your site-specific procedures and the requirements of the components, such as the monitoring agents, that you have chosen to configure in the runtime environment. The requirements of each component are described in the separate product documentation for each component.

Typically, at this point in the procedure for creating a runtime environment, you would need to refer to that separate documentation. However, to help make this “first runtime environment” procedure stand-alone, and because in this procedure we have selected a fixed set of specific components, the “complete the configuration” steps are presented here.

Depending on your user privileges, you might need to ask someone else to perform some or all of the following steps. For example, only z/OS® system administrators are typically allowed to write to system libraries.

5. Use your site-specific procedures to copy the runtime members for started tasks and VTAM® definitions to your system libraries.  
Copy the members from the following libraries to your corresponding PROCLIB, VTAMLIB, and VTAMLST system libraries:

```
rte_hilev.SYS1.PROCLIB
rte_hilev.SYS1.VTAMLIB
rte_hilev.SYS1.VTAMLST
```

The default value of the RTE\_HILEV parameter is the value of RTE\_PLIB\_HILEV.

If you followed the earlier tip to set the **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** parameter to Y, then you can skip the next two steps. However, you should still *read* these steps to understand the requirements of the runtime environment for VTAM® resources and APF-authorized libraries.

6. Activate the VTAM® resources defined by this runtime environment.  
Issue the following **VARY ACT** MVS™ system command:

```
VARY NET,ACT,ID=rte_vtam_applid_prefixNODE,SCOPE=ALL
```

The **ID** parameter of the **VARY ACT** command must match the value of the runtime environment parameter **RTE\_VTAM\_GBL\_MAJOR\_NODE**.

The default value of **RTE\_VTAM\_GBL\_MAJOR\_NODE** is the value of **RTE\_VTAM\_APPLID\_PREFIX** followed by the string **NODE**. If you use the **RTE\_VTAM\_APPLID\_PREFIX** initial value of **OM $xx$** , then the default value of **RTE\_VTAM\_GBL\_MAJOR\_NODE** is **OM $xx$ NODE**, where  $xx$  is the value of the z/OS® static system symbol **SYSCONE**. For example, if the system (LPAR) name is **ZOS1**, then specify **ID=OMS1NODE**.

7. APF-authorize libraries.  
Add the following data sets to the authorized program facility (APF) list:

- The following runtime environment library:  
`rte_hilev.rte_name.RKANMODU`
- The following target libraries, under the high-level qualifiers of the STEPLIB of the Monitoring Configuration Manager job:  
TKANMOD  
TKANMODL  
TKANMODP  
TKANMODR

The runtime member `rte_hilev.SYS1.PROCLIB(rte_stc_prefixAPF)` contains **VARY ACT** and **SETPROG APF** commands for this runtime environment. Different runtime environments require different VTAM® resources and APF-authorized libraries, depending on the configured products.

If you specify the parameter **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** Y in the RTEDEF (`rte_name`) member, and then perform the **GENERATE** action, some started tasks will contain an **INCLUDE** statement to include that member, so that you do not need to issue these commands separately. Whether started tasks are allowed to perform such commands depends on your local site practices.

Setting **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** can be expedient for initial testing. However, typical best practice is to activate VTAM® resources and APF-authorize libraries during system initialization rather than each time you start a task. Use the generated `SYS1.PROCLIB(rte_stc_prefixAPF)` member to identify which libraries you need to add to the APF list at system initialization.

8. Start at least the following tasks: `rte_stc_prefixCN`, `rte_stc_prefixDS`, and `rte_stc_prefixTOM`.

The user ID that you associate with these started tasks must have z/OS® UNIX® superuser privileges and access to the [runtime members](#).

#### **rte\_stc\_prefixCN**

OMEGAMON® subsystem.

The OMEGAMON® subsystem does not belong to a runtime environment. You only need one OMEGAMON® subsystem per LPAR.

If the OMEGAMON® subsystem has already been started, the job for this started task will fail. The JESMSGLG output data set for the failed job will contain the following messages:

```
CNDL018I OMEGAMON SUBSYSTEM ALREADY ACTIVE ...
CNDL002I OMEGAMON SUBSYSTEM Vvrm TERMINATED ...
```

This is not a problem: your runtime environment will use the already-active subsystem.

#### **rte\_stc\_prefixDS**

Monitoring server.

## *rte\_stc\_prefix*TOM

Enhanced 3270 user interface.

### What to do next

[Logon](#) to the enhanced 3270 user interface and view the monitoring data from the z/OS® agent.

## Creating or updating a runtime environment

To create or update a runtime environment, you edit a set of parameters, and then you submit a job that performs the **GENERATE** action to generate runtime members from those parameters.

### Before you begin

Read the [prerequisites](#) for using Monitoring Configuration Manager.

If you are updating a runtime environment after using SMP/E to apply maintenance to the target libraries, and your runtime environment refers to a copy of those libraries, then use your site-specific procedures to refresh that copy.

### About this task

When creating a runtime environment, you can optionally perform the **CREATE** action to create an initial set of parameters.

When creating or updating a runtime environment, you can optionally perform the **DISCOVER** action to create or update subsystem parameters, rather than editing them yourself.

Updating a runtime environment encompasses many scenarios. For example:

- Applying maintenance, after using SMP/E to update target libraries
- Upgrading an agent to a new product release
- Adding or removing agents
- Changing parameter values; for example, to change a hub monitoring server to a remote monitoring server

The procedure for updating the runtime environment is the same for every scenario.

### Procedure

1. Create a runtime environment definition. If you are updating a runtime environment, the definition already exists: skip this step.  
A runtime environment definition consists of one or more plain-text members in a library. These members specify the parameters that define the runtime environment. For details, see [“Runtime environment definition \(RTEDEF\) library”](#) on page 319.

To create a runtime environment definition, submit a job that performs the **CREATE** action of Monitoring Configuration Manager.

Example JCL:

*Figure 20: Example JCL to perform the **CREATE** action*

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1      EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION    CREATE
RTE_NAME  <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

Similar JCL is supplied in the KFJJMCM member of the TKANSAM target library.

Edit the example job statement to match your site's standards. For example, for job name, class, and message class.

Replace the placeholders in the example JCL with appropriate values. For details, see [“Batch interface” on page 236](#).

**Tip:** After running a Monitoring Configuration Manager job, check the KCIPRINT sysout data set.

2. Edit the parameters in the RTEDEF library to meet your requirements for the runtime environment.
3. Optionally, submit a job that performs the **DISCOVER** action.  
The **DISCOVER** action discovers CICS®, Db2®, IMS, and MQ subsystems, TCP/IP stacks, and System symbols, and then writes corresponding members to the RTEDEF library.

Use the same JCL as the previous step but change the action to **DISCOVER**.

Optionally, change the program name in the JCL **EXEC** statement to KCIALPHA. KCIALPHA is an APF-authorized version of KCIOMEGA. APF-authorization enables the program to discover more subsystem details.

Check and, if necessary, edit the contents of the [members created by the \*\*DISCOVER\*\* action](#).

For discovered Db2® subsystems, you need to complete some of the parameters: see [“Completing the parameters for discovered Db2 subsystems” on page 231](#).

4. Submit a job that performs the **GENERATE** action.  
Use the same JCL shown in the first step but change the action to **GENERATE**.  
The **GENERATE** action generates the runtime members for the runtime environment, including the started tasks.

**Note:** You have completed the steps that involve the configuration software, Monitoring Configuration Manager.  
The remaining steps complete the configuration of the runtime environment *outside* of the configuration software.

These “complete the configuration” steps depend on your site-specific procedures and the requirements of the components, such as the monitoring agents, that you have chosen to configure in the runtime environment. The requirements of each component are described in the separate product documentation for each component.

Depending on your user privileges, you might need to ask someone else to perform some or all of the following steps. For example, only z/OS® system administrators are typically allowed to write to system libraries.

5. Use your site-specific procedures to copy the runtime members for started tasks and VTAM® definitions to your system libraries.  
Copy the members from the following libraries to your corresponding PROCLIB, VTAMLIB, and VTAMLST system libraries:

```
rte_hilev.SYS1.PROCLIB  
rte_hilev.SYS1.VTAMLIB  
rte_hilev.SYS1.VTAMLST
```

The default value of the RTE\_HILEV parameter is the value of RTE\_PLIB\_HILEV.

6. Follow the instructions in the OMEGAMON® shared documentation to [complete the configuration](#) of the runtime environment.
7. For a newly created runtime environment: start the tasks. For an updated runtime environment: stop and then restart the tasks.

## Sharing runtime members with an SMP/E target installation library or creating a full, stand-alone set of runtime members

Runtime members can be either a full stand-alone set or they can refer to some read-only members, such as load modules, in SMP/E target installation libraries.

## Procedure

1. In the RTEDEF (*rte\_name*) member, specify an **RTE\_TYPE** value.  
Valid values:

### FULL

Stand-alone runtime members. Runtime members have no dependency on target libraries.

### SHARING

Some runtime members refer to the target libraries.

The high-level qualifiers of the target libraries are specified by the **GBL\_TARGET\_HILEV** parameter.

SHARING reduces the storage requirement for each runtime environment.

If **RTE\_TYPE** is SHARING, then the value of the RTE\_SHARE parameter must be SMP.

If you omit **RTE\_TYPE**, the default value is SHARING.

2. Submit a job that performs the **GENERATE** action.

## Completing the parameters for discovered Db2® subsystems

The **DISCOVER** action discovers only some of the parameter values required to monitor Db2® subsystems. You must supply the remaining values.

### Before you begin

You must have performed a **DISCOVER** action that created an RTEDEF (KD5@*lpar*) member containing a table of parameters: one row for each discovered Db2® subsystem.

### About this task

You must supply values for the following parameters:

#### KD2\_DBnn\_DB2\_RUNLIB

The Db2® RUNLIB library.

#### KD2\_DBnn\_DB2\_PORT\_NUM

The port number on which the OMEGAMON® for Db2® Collector (or “server”, default started task suffix 02) listens for requests.

The **DISCOVER** action sets a placeholder value for the port number. Typically, you will need to change this value to match your site-specific standards.

To specify the RUNLIB library for discovered Db2® subsystems, you must either ensure that the global parameters are correct or edit the parameters for each Db2® subsystem.

## Procedure

1. Specify the correct port numbers.  
In the RTEDEF (KD5@*lpar*) member, change the placeholder value of each **KD2\_DBnn\_DB2\_PORT\_NUM** parameter to the actual port number you want to use.
2. Specify Db2® RUNLIB libraries.  
Select one of the following choices:
  - To use global parameter values for Db2® LOADLIB and RUNLIB libraries: in the RTEDEF (GBL\$PARM) member or LPAR-specific RTEDEF (GBL\$*lpar*) member, define **GBL\_DSN\_DB2\_LOADLIB\_Vn** and **GBL\_DSN\_DB2\_RUNLIB\_Vn** parameters for the Db2® versions that your site uses.
  - To set LOADLIB and RUNLIB libraries for each Db2® subsystem: in the RTEDEF (KD5@*lpar*) member, specify a value for **KD2\_DBnn\_DB2\_RUNLIB**.

## Converting a hub monitoring server to a remote monitoring server

Initially, you might configure a new runtime environment to be stand-alone, with its own hub monitoring server. Later, you can integrate that runtime environment with the rest of your monitoring topology by converting its hub monitoring server to a remote monitoring server that communicates with a central hub.

## Before you begin

The following procedure assumes that you have already created the following two runtime environments:

- A runtime environment with a hub monitoring server that you want to convert to a remote monitoring server.
- A runtime environment with the central hub monitoring server that you want the new remote monitoring server to communicate with. We'll call this the **central hub** runtime environment.

## About this task

Converting a hub monitoring server to a remote monitoring server involves changing the **KDS\_TEMS\_TYPE** parameter value from HUB to REMOTE, and setting some other **KDS\_\*** parameters to refer to the central hub.

The following diagram shows a stand-alone runtime environment with a hub:



Figure 21: Before: A stand-alone runtime environment with a hub monitoring server

The following diagram shows the runtime environment after you have converted its hub to a remote monitoring server that communicates with a central hub:



Figure 22: After: A runtime environment with a remote monitoring server

## Procedure

1. Edit the RTEDEF (KDS\$PARG) or RTEDEF (KDS\$Lpar) member for the runtime environment with the hub that you want to convert to a remote monitoring server. Set the following parameters:

### KDS\_TEMS\_TYPE

Change from HUB to REMOTE.

### KDS\_HUB\_TEMS\_NAME\_NODEID

Set to the value of **RTE\_TEMS\_NAME\_NODEID** in the central hub runtime environment.

### KDS\_HUB\_TCP\_PIPE\_PORT\_NUM

Set to the value of RTE\_TCP\_PORT\_NUM in the central hub runtime environment.

### KDS\_HUB\_TCP\_HOST

Set to the host name of the LPAR for the central hub runtime environment.

2. Submit a job that performs the **GENERATE** action for the runtime environment whose parameters you have just edited.

## Defining multiple runtime environments in an RTEDEF library

You can define one runtime environment per RTEDEF library or, as described here, you can define multiple runtime environments in a single RTEDEF library.

### About this task

For each runtime environment that you want to define, you create a corresponding RTEDEF (*rte\_name*) member. To cater for LPAR-specific parameter differences between runtime environments, you create LPAR-specific RTEDEF members.

The simple example presented here defines two runtime environments on different LPARs:

- A runtime environment with a hub monitoring server and an enhanced 3270 user interface, but no monitoring agents.
- A runtime environment with a remote monitoring server and a z/OS® monitoring agent.

The following diagram shows the significant RTEDEF members and their parameters for this example:

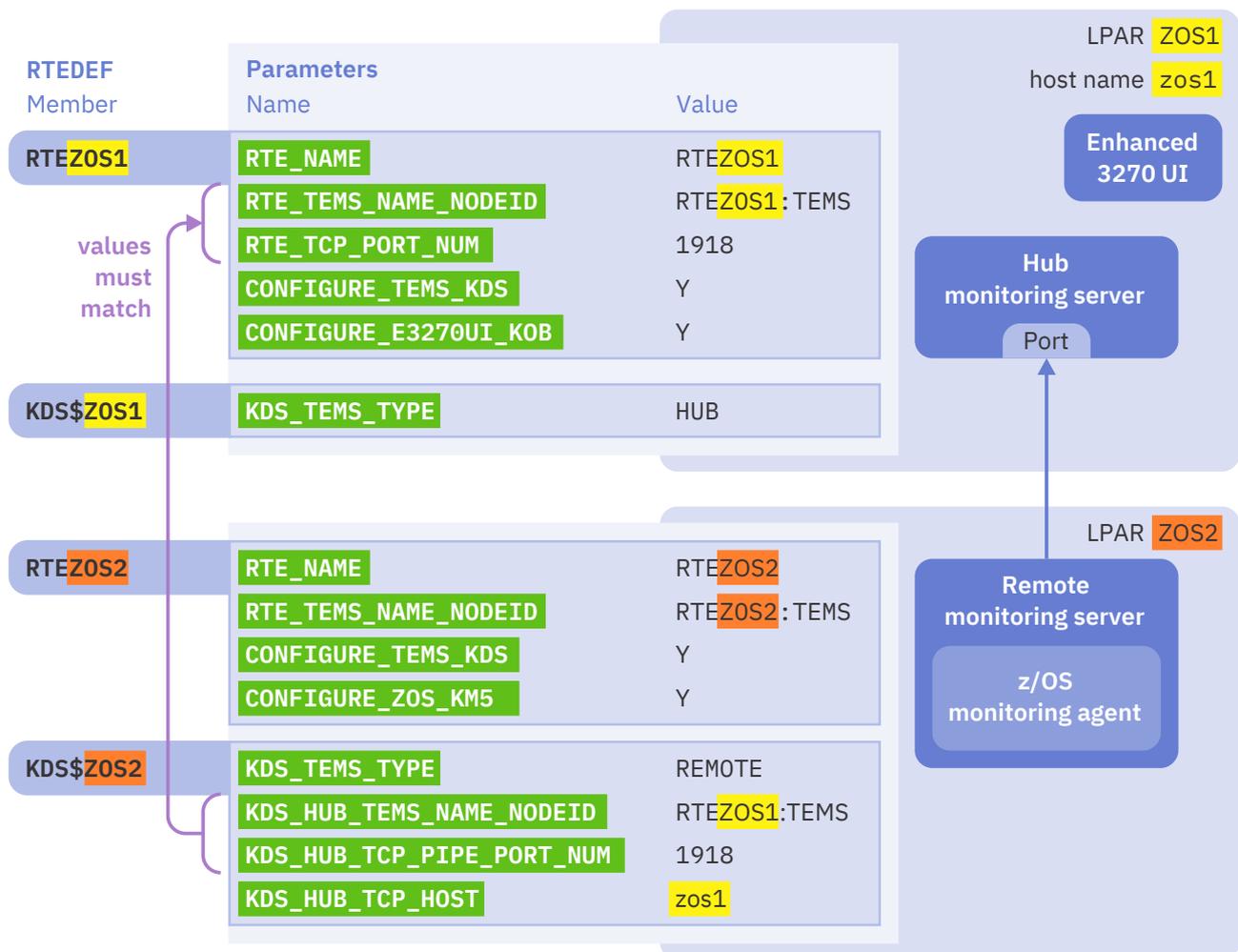


Figure 23: Defining two runtime environments in a single RTEDEF library

In the following procedure, replace the example names with names appropriate for your site:

- Replace the host name `zos1` with the host name of the LPAR where you will run the hub monitoring server.
- Replace the LPAR names `ZOS1` and `ZOS2` with the names of LPARs at your site.
- Use RTE names that match your site naming conventions.

## Procedure

1. Use the **CREATE** action to create an initial set of parameters in a new RTEDEF library.

Example JCL:

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1 [1]
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION CREATE
RTE_NAME RTEZOS1 [2]
RTE_PLIB_HILEV TSOUID.MONSUITE
/*
```

### [1]

Run this job on the LPAR where you will run the hub monitoring server, `ZOS1`.

### [2]

Specify the **RTE\_NAME** that you want to use for the runtime environment with the hub monitoring server. For example, `RTEZOS1`: the prefix `RTE`, followed by the LPAR name. You are free to use your own naming convention: for example, there is no requirement for the value to begin with `RTE` or to end with the LPAR name.

2. Edit the RTEDEF (`RTEZOS1`) member to configure a monitoring server and an enhanced 3270 user interface.

Set the following parameters to Y:

**CONFIGURE\_TEMS\_KDS** to configure a monitoring server

**CONFIGURE\_E3270UI\_KOB** to configure an enhanced 3270 user interface

Either delete all other **CONFIGURE\_\*** parameters or set them to N.

Review the following parameter values and, if necessary, change them to match your site requirements:

**RTE\_TEMS\_NAME\_NODEID**

**RTE\_TCP\_PORT\_NUM**

3. Create an RTEDEF (`KDS$ZOS1`) member.

Set a single parameter in this member:

**KDS\_TEMS\_TYPE** HUB

Strictly speaking, this member is unnecessary, because `HUB` is the default value of **KDS\_TEMS\_TYPE**.

However, creating this member serves as a reminder that the runtime environment on this LPAR contains a *hub* monitoring server. You will also need this member if you decide later to further configure the hub: for example, to make it a high-availability hub (**KDS\_TEMS\_HA\_TYPE** HA).

You have completed the definition of the runtime environment for the hub.

4. Run another job that performs a **CREATE** action, this time for the LPAR where you will run the remote monitoring server.

Example JCL:

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS2 [1]
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION CREATE
RTE_NAME RTEZOS2 [2]
RTE_PLIB_HILEV TSOUID.MONSUITE
/*
```

[1]

Run this job on the LPAR where you will run the remote monitoring server, ZOS2.

[2]

Specify the **RTE\_NAME** that you want to use for the runtime environment with the remote monitoring server. For example, RTEZOS2.

5. Edit the new RTEDEF (RTEZOS2) member to configure a monitoring server and a z/OS® monitoring agent. Set the following parameters to Y:

**CONFIGURE\_TEMS\_KDS** to configure a monitoring server  
**CONFIGURE\_ZOS\_KM5** to configure a z/OS® monitoring agent  
Either delete other **CONFIGURE\_\*** parameters or set them to N.

6. Create an RTEDEF (KDS\$ZOS2) member.  
Set the following parameters in the member:

**KDS\_TEMS\_TYPE**

Set to REMOTE.

**KDS\_HUB\_TEMS\_NAME\_NODEID**

Set to the value of **RTE\_TEMS\_NAME\_NODEID** in the hub runtime environment.

**KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**

Set to the value of **RTE\_TCP\_PORT\_NUM** in the hub runtime environment.

**KDS\_HUB\_TCP\_HOST**

Set to the host name of the LPAR for the hub runtime environment.

7. Optionally, delete the RTEDEF (KDS\$PARM) member.  
The KDS\$PARM member created by the **CREATE** action contains only one parameter, **KDS\_TEMS\_TYPE**. The value of **KDS\_TEMS\_TYPE** in the LPAR-specific members takes precedence over the value in KDS\$PARM. So the KDS\$PARM member is, effectively, redundant.

You have completed the definition of the runtime environment for the remote monitoring server.

8. Use the **GENERATE** action to create runtime members for the hub runtime environment.  
Example JCL:

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID  
/*JOBPARM SYSAFF=ZOS1 [1]  
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256  
//STEPLIB DD DISP=SHR,DSN=<plib_hlq>.TKANMOD  
//KCIFLOW DD DISP=SHR,DSN=<plib_hlq>.TKANCUS(KFJOMEGA)  
//KCIVARS DD *  
ACTION GENERATE  
RTE_NAME RTEZOS1 [2]  
RTE_PLIB_HILEV TSOUID.MONSUITE  
/*
```

[1]

Run this job on the LPAR where you will run the hub, ZOS1.

[2]

Specify an **RTE\_NAME** value to match the RTEDEF (RTEZOS1) member for the hub runtime environment.

9. Use the **GENERATE** action to create runtime members for the remote monitoring server runtime environment.  
Reuse the JCL from the previous step, with the following changes:

[1]

Run the job on the LPAR where you will run the remote monitoring server, ZOS2.

[2]

Specify the corresponding **RTE\_NAME** for that runtime environment, RTEZOS2.

## What to do next

For details on completing the configuration of these runtime environments and then starting them, see the corresponding steps in the general procedure for [creating a runtime environment](#).

Extend this example with more LPARs and more monitoring agents. Use the **DISCOVER** action to discover subsystems on each LPAR.

This example assumed that the same global parameter values in RTEDEF (GBL\$PARM) apply to the runtime environments on both LPARs. To specify different values for different LPARs, create LPAR-specific RTEDEF (GBL\$lpar) members.

## Batch interface

The JCL to run IBM Z® Monitoring Configuration Manager is simple and concise. You specify an action, the name of the runtime environment on which you want to perform that action, and the high-level qualifiers of the data sets for that runtime environment.

### JCL

Figure 24: JCL to run Monitoring Configuration Manager

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
*
*
* <action> SELECT FROM:
* CREATE | DISCOVER | GENERATE | DELETE | MIGRATE | PACKAGE | DEPLOY
*
ACTION          <action>
OPTION          <option>
RTE_NAME       <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
/*
```

Similar JCL is supplied in the KFJJMCM member of the TKANSAM target library.

KCIOMEGA is the program that runs Monitoring Configuration Manager. The KCIFLOW data set provides input to KCIOMEGA. That is all you need to know about the KCIOMEGA program and the KCIFLOW data set to run Monitoring Configuration Manager. If you want to know more, see [“KCIOMEGA workflows” on page 274](#).

Replace the placeholders in the JCL with appropriate values:

#### <lpar>

Run Monitoring Configuration Manager actions on the LPAR where you will start the runtime environment. For example, if your site uses JES2, insert a **SYSAFF** job parameter after the **JOB** statement to ensure that the job runs on that LPAR.

#### <tlib\_hlq>

The high-level qualifiers of the target libraries.

#### <action>

One of the Monitoring Configuration Manager [actions](#).

You can abbreviate actions to their first three characters: **CRE**, **DIS**, **GEN**, **DEL**, **MIG**, **PAC**, and **DEP**.

#### <option>

One or more compatible Monitoring Configuration Manager [options](#). Multiple options must be specified by a comma with no spaces.

#### <rte\_name>

Runtime environment name, 1 - 8 characters.

Monitoring Configuration Manager uses this name for various purposes, including:

- MVS™ member names
- MVS™ data set name qualifiers

- z/OS® UNIX® System Services directory name, all uppercase

### <*rte\_plib\_hilev*>

The high-level qualifiers of the runtime environment definition library:  
*rte\_plib\_hilev*.RTEDEF

Monitoring Configuration Manager uses the values of **RTE\_NAME** and **RTE\_PLIB\_HILEV** to set the default value of other parameters, such as **RTE\_HILEV** and **RTE\_VSAM\_HILEV**, that are used for data set names. To avoid exceeding the z/OS 44-character limit for data set names, the combined length of **RTE\_NAME** and **RTE\_PLIB\_HILEV** should not exceed 28 characters. For example, if **RTE\_NAME** is 8 characters, then **RTE\_PLIB\_HILEV** should not exceed 20 characters.

### **RTE\_NAME and RTE\_PLIB\_HILEV parameters versus the values in KCIVARS**

The **CREATE** action uses the **RTE\_NAME** and **RTE\_PLIB\_HILEV** values that you specify in the KCIVARS input data set as the initial values of the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters in the *rte\_plib\_hilev*.RTEDEF(*rte\_name*) member. At that point in time, the values of the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters in the RTEDEF(*rte\_name*) member match the values that you specified in KCIVARS.

However, you might edit the values of the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters in the RTEDEF(*rte\_name*) member so they no longer match the values that you specified in KCIVARS.

For subsequent actions, the **RTE\_NAME** and **RTE\_PLIB\_HILEV** values that you specify in KCIVARS are used only to *locate* the *rte\_plib\_hilev*.RTEDEF(*rte\_name*) member. The action uses the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters in that RTEDEF library.

### **Contents of the KCIVARS input data set**

The contents of the KCIVARS data set are **case-sensitive**: you must specify the variable names and their values exactly as described.

KCIVARS can contain comment lines and inline comments:

- Comment lines begin with an asterisk (\*) in column 1.

```
* Comment line
```

- Inline comments begin with an asterisk after a variable value.

```
RTE_NAME MYRTE * Inline comment
```

## **Actions**

IBM Z® Monitoring Configuration Manager can perform several actions. The main action, **GENERATE**, generates runtime members, which is the main purpose of Monitoring Configuration Manager. The other actions are optional, for your convenience.

You typically perform the actions in the following order:

1. **CREATE**
2. **DISCOVER**
3. **GENERATE**
4. **DELETE**

In addition, a **MIGRATE** action can be used to copy the required configuration parameters from PARMGEN for use with Monitoring Configuration Manager. When using **MIGRATE**, you typically perform the actions in the following order:

1. **MIGRATE**
2. **GENERATE**
3. **DELETE**

Finally, to support cross-sysplex rollout scenarios, the **PACKAGE** and **DEPLOY** actions can be used after the **GENERATE** action has completed successfully.

## Action options

The **OPTION** parameter is available for some actions and provides more granular control over certain processing. Use of this parameter is optional.

This topic summarizes the available options for each of the respective actions, as follows. For sample JCL, see [“JCL” on page 236](#).

### CREATE action

The following options are available for the **CREATE** action. For more information, see [“CREATE” on page 239](#).

#### MULTIPLE

Use a single Configuration Manager RTEDEF data set for multiple runtime environments. You can abbreviate this keyword to **MULTI**.

#### TRGCOPIY

Create a target copy member in the RTEDEF library. You can abbreviate this keyword to **TRG**.

### GENERATE action

Some options require a complete run of the **GENERATE** action prior to use. Additionally, some options are not compatible to run with other options during the same job.

To specify more than one option, separate the values with a comma and no spaces. For example: **OPTION USS, SECEXITS**

The following options are available for the **GENERATE** action. For details about using these options, see [“GENERATE” on page 248](#) and [“GENERATE options” on page 251](#).

#### USS | NOUSS

Provides control of the **GENERATE** workflow stage that deploys the parts related to z/OS® UNIX® System Services. You must perform a complete run of the **GENERATE** action before you can use **OPTION USS**.

#### SECEXITS | NOSECEXITS

Provides control of configuration processing for security exits. You must perform a complete run of the **GENERATE** action before you can use **OPTION SECEXITS**. You can abbreviate these keywords to **SEC** and **NS**, respectively.

#### VALIDATE

Performs initial validation of RTEDEF parameters. You can abbreviate this keyword to **VAL**.

#### QUICKLOAD

Loads the read-only configuration members to the RK\* data sets. The read-only members are those members that are not impacted by customization during configuration. You can abbreviate this keyword to **QL**.

#### QUICKCONFIG

Updates the configurable members for the runtime environment (for example, in the RKANPARU, RKANSAMU, and RKANCMU libraries) without refreshing data from SMP/E target libraries. You can abbreviate this keyword to **QC**.

#### RELINK | NORELINK

Provides control of when to assemble and link edit modules for OMEGAMON for Networks (KN3) and OMEGAMON enhanced 3270 user interface (KOB). You must perform a complete run of the **GENERATE** action before you can use **OPTION RELINK**. You can abbreviate these keywords to **LINK** and **NL**, respectively.

#### TRGCOPIY

Copies SMP/E target libraries into target copy data sets. You can abbreviate this keyword to **TRG**.

#### PREPARE

Prepares intermediate work libraries for your runtime environment separately from other **GENERATE** action stages. You can use this option to build the work data sets before other **GENERATE** action stages so that other required tasks dependent on the data sets can be performed ahead of time or in parallel. You can abbreviate this keyword to **PREP**.

### MIGRATE action

The following option is available for the **MIGRATE** action. For more information, see [“MIGRATE” on page 261](#).

## MULTIPLE

Use a single Configuration Manager RTEDEF data set for multiple PARMGEN runtime environments. You can abbreviate this keyword to **MULTI**.

## PACKAGE action

The following option is available for the **PACKAGE** action. For more information, see [“PACKAGE” on page 265](#).

### NOUSS

Do not include the files and directories related to z/OS® UNIX® in the **PACKAGE** output.

## DEPLOY action

The following options are available for the **DEPLOY** action. For more information, see [“DEPLOY” on page 268](#).

### USS

Run only the **DEPLOY** workflow stage that deploys the parts related to z/OS® UNIX®.

### NOUSS

Do not run the z/OS® UNIX® deploy stage in the **DEPLOY** action.

## All actions

The following option is available for all actions.

### DEBUG

This option provides output for troubleshooting purposes and should only be used under the guidance of IBM Software Support. The **DEBUG** keyword can be used with all other **OPTION** keywords. You can abbreviate this keyword to **DBG**.

## CREATE

The **CREATE** action creates an initial runtime environment definition that you can customize to match your requirements.

## Before you begin

Review the following information before you use the **CREATE** action:

- For an overview of how the **CREATE** action fits into the process of creating a runtime environment, see [“Creating your first, minimal runtime environment” on page 222](#).
- For information about the members that the **CREATE** action allocates and populates, see [“Initial runtime environment library members” on page 322](#).
- The **CREATE** action supports creating one or more runtime environments in a single RTEDEF configuration. It is recommended that you decide prior to the creation of your first runtime environment whether you plan to create one or multiple runtime environments in a single RTEDEF.

**Note:** If you are going to set up a High Availability TEMS (HA TEMS), make sure only one runtime environment is defined in the RTEDEF (that is, the one used for the HA TEMS).

**Note:** You can also use the **CREATE** action as part of the process to create a copy of your SMP/E target libraries. For more information, see [“Using SMP/E target library copies” on page 352](#).

## About this task

The **CREATE** action creates an initial runtime environment definition by allocating and populating the necessary data sets, members, and configuration settings.

**Note:** Using the **CREATE** action to create your initial runtime environment definition is optional and provided for convenience; you can perform the same steps manually. Experienced users can skip **CREATE** and copy an existing RTEDEF library. You can allocate the RTEDEF library yourself using a record format of fixed-length, blocked (FB) and a record length of 80. You can also create the members; the only required member is *rte\_name*.

The following list provides details about the **CREATE** action:

- The **CREATE** action allocates the runtime environment definition library, *rte\_plib\_hilev*. RTEDEF, if it does not already exist, and populates it with initial configuration settings. The **CREATE** action does not overwrite members. If the RTEDEF library already exists, the **CREATE** action only writes members that do not yet exist.
- You can create one or more runtime environments in a single RTEDEF configuration. The default behavior of the **CREATE** action is to create only one runtime environment in the RTEDEF data set. Using the **OPTION MULTIPLE** parameter, you can create multiple runtime environments in a single RTEDEF data set. Each runtime environment creation requires a separate **CREATE** action job. If you plan to configure multiple runtime environments in a single RTEDEF data set, make sure to include the **OPTION MULTIPLE** parameter on every **CREATE** action job, including the first one.

**Note:** You can abbreviate **OPTION MULTIPLE** to **OPTION MULTI**. **OPTION MULTIPLE** is not compatible with the other available **CREATE** action option, **TRGCOPY**.

- The **CREATE** action creates the necessary members in the RTEDEF data set, as follows:
  - When using the default behavior of the **CREATE** action to create one runtime environment in a single RTEDEF data set (omitting the **OPTION MULTIPLE** parameter), the **CREATE** action will create members of type *Kpp\$PARM* in the respective created RTEDEF data set, along with the *rte\_name* member for the runtime environment-specific parameters.
  - When creating a runtime environment in a configuration where a single RTEDEF contains multiple runtime environments, use parameter **OPTION MULTIPLE** and **KFJ\_SYSNAME lpar** in the KCIVARS DD. The **CREATE** action will create members of type *Kpp\$lpar* in the RTEDEF data set, along with the *rte\_name* member for the runtime environment-specific parameters.

**Note:** When using **OPTION MULTIPLE**, the **CREATE** action creates the *Kpp\$lpar* members automatically. It is recommended that you create the *Kpp\$lpar* members as well and add the parameter values that are the same for all runtime environments in the given RTEDEF library.

On subsequent runs of the **CREATE** action, reuse the same **RTE\_PLIB\_HILEV** parameter value, but update the values for parameters **RTE\_NAME** and **KFJ\_SYSNAME** to create a new set of runtime environment parameter members. There is no limit on how many runtime environments can be configured in a single RTEDEF data set.

- The **CREATE** action allocates the security exits library with the default name *rte\_plib\_hilev.rte\_name*. SECEXITS (or, optionally, the name specified in the **KFJ\_SECURITY\_EXITS\_LIB** parameter). The **CREATE** action also populates the security exits library with default security exits members and defines the library to the runtime environment using the **RTE\_X\_SECURITY\_EXIT\_LIB** parameter. For more information, see [“Setting up security exits in your runtime environment” on page 336](#).
- If the use of override embed members is enabled by specifying parameter **KFJ\_USE\_EMBEDS** set to Y, the **CREATE** action allocates the embeds data set with the default name *rte\_plib\_hilev.rte\_name*. EMBEDS (or, optionally, the name specified in the **KFJ\_EMBEDS\_LIB** parameter). The **CREATE** action sets up the embeds data set, populates it with supported override embed parameters (if applicable), and defines it to the runtime environment using the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter. For more information, see [“Using override embed members in Configuration Manager” on page 337](#).
- The **CREATE** action works with the **KFJ\_LOCAL\_PLIB\_HILEV** parameter to allow for local generation of runtime environments for remote systems using different high-level qualifiers.

When the **KFJ\_LOCAL\_PLIB\_HILEV** parameter is specified, the generated *kfj\_local\_plib\_hilev*.RTEDEF data set will contain an additional member: PCK\$PARM for a default (single) **CREATE** action, or member PCK\$*lpar* in a multiple **CREATE** action. This member allows locally generated runtime environments using a different data set high-level qualifier than the one intended to be used on the deployment target (for example, the production system).

For more information about remote deployments, see [“Special considerations for SYSPLEX rollout” on page 323](#), [“RTEDEF\(PCK\\$PARM\)” on page 326](#), and [“Deploying remote runtime environments” on page 341](#).

To create a runtime environment definition using the **CREATE** action, use the following procedure.

## Procedure

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **CREATE** action.
2. Specify values for the required parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
3. (Optional) Specify additional parameters as needed, for example:
  - To create this runtime environment in a RTEDEF data set that does or will contain multiple runtime environment configurations, add the **OPTION MULTIPLE** and **KFJ\_SYSNAME lpar** parameters. If this is a subsequent run of the **CREATE** action, reuse the same **RTE\_PLIB\_HILEV** parameter value, but update the values for parameters **RTE\_NAME** and **KFJ\_SYSNAME**.
  - To specify a different name for the security exits library, add the **KFJ\_SECURITY\_EXITS\_LIB** parameter and value.
  - To enable the use of override embed members, add the **KFJ\_USE\_EMBEDS** parameter set to Y and the **KFJ\_EMBEDS\_LIB** parameter and value.
4. Run the KFJJMCM job to generate and populate the RTEDEF data set and other required data sets. Job messages for the **CREATE** action are written to the KCIPRINT SYSOUT data set.

## Creating runtime environment definition for one LPAR

The following JCL jobs create the runtime environment definition library TSOUID.MONSUITE.RTEDEF and populate it with various members, including the runtime environment configuration profile member RTE1. The first example is for a single runtime environment RTEDEF, and the second example is for a multiple runtime environment RTEDEF. These examples also specify that override embed members are enabled and provide custom data set names for the security exits and embeds libraries.

Figure 25: Example JCL to perform the **CREATE** action (one LPAR) for a single runtime environment RTEDEF

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUIITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
*
ACTION                CREATE
RTE_NAME              RTE1
RTE_PLIB_HILEV        TSOUID.MONSUITE

KFJ_SECURITY_EXITS_LIB TEST1.TST.DEMO.MYEXITS
KFJ_USE_EMBEDS        Y
KFJ_EMBEDS_LIB        TEST1.TST.DEMO.MYEMBEDS
/*
```

Figure 26: Example JCL to perform the **CREATE** action (one LPAR) for a multiple runtime environment RTEDEF

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUIITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
*
ACTION                CREATE
OPTION                MULTIPLE
RTE_NAME              RTE1
RTE_PLIB_HILEV        TSOUID.MONSUITE
```

```

KFJ_SECURITY_EXITS_LIB TEST1.TST.DEMO.MYEXITS
KFJ_USE_EMBEDS        Y
KFJ_EMBEDS_LIB        TEST1.TST.DEMO.MYEMBEDS

KFJ_SYSNAME           lpar
/*

```

### Creating a runtime environment definition for remote deployment

The following JCL creates the runtime environment definition library TSOUID.DEV.RTEDEF. In addition to the standard members, it will contain member PCK\$PARM, where you will find all available **KFJ\_LOCAL\_\*** parameters.

Figure 27: Example JCL to perform the **CREATE** action (remote deployment)

```

//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
*
ACTION                CREATE
RTE_NAME              RTE1
RTE_PLIB_HILEV        TSOUID.PROD
KFJ_LOCAL_PLIB_HILEV  TSOUID.DEV
/*

```

**Note:** If **OPTION MULTIPLE** is used, the **CREATE** action creates member PCK\$lpar instead of PCK\$PARM.

## DISCOVER

The **DISCOVER** action discovers CICS® regions, Db2® subsystems, IMS control regions, MQ subsystems, TCP/IP stacks and system symbols on an LPAR, and then creates corresponding members in the runtime environment definition library.

### Before you begin

This documentation uses *subsystem* as an informal collective term for CICS® regions, Db2® subsystems, IMS control regions, MQ subsystems, and TCP/IP stacks.

Discovery is not limited to the products that you have configured using **CONFIGURE\_\*** parameters. The **DISCOVER** action always discovers all the subsystems it can.

It is recommended that you review the following topics, which describe the results of the **DISCOVER** action:

- [“Parameters created by the DISCOVER action” on page 244](#)
- [“Members created by the DISCOVER action” on page 245](#)

**Tip:** Bring up all the subsystems you intend to monitor before you run the **DISCOVER** action. You can re-run the **DISCOVER** action if any subsystems are added or started on your LPAR after your initial discovery run. In this case, you need to consolidate the respective discovery output in your RTEDEF data set (that is, [merge the generated members](#) accordingly).

### About this task

The **DISCOVER** action discovers subsystems and system symbols on an LPAR, and then creates corresponding members in the runtime environment definition library (*rte\_plib\_hilev*.RTEDEF) and populates the members with the discovered data.

The following list provides details about the **DISCOVER** action:

- Run the **DISCOVER** action on the LPAR whose subsystems you want to discover. For example, insert a JES2 **SYSAFF** job parameter after the **JOB** statement to ensure that the job runs on the correct LPAR:

```
/*JOBPARM SYSAFF=<lpar>
```

- Use the KCIALPHA program to discover more details. Optionally, for the **DISCOVER** action only, change the program name in the JCL **EXEC** statement from KCIOMEGA to KCIALPHA. KCIALPHA is an APF-authorized version of KCIOMEGA. APF authorization enables KCIALPHA to discover more subsystem details, which would otherwise need to be entered manually. If KCIALPHA is run from a load library that is not APF authorized, partial discovery will still be completed, but the job will end with return code 8.
- The **DISCOVER** action can run stand-alone, that is, without requiring an existing RTEDEF data set as pointed to by the **RTE\_PLIB\_HILEV** parameter. The resulting RTEDEF will only contain the members produced by discovery and will use the default prefixes for VTAM applids and started task definitions. For more information about this use case, see the example [“Stand-alone discovery using defaults” on page 244](#).
- For some subsystem data sets, if an alias is defined for the data set, the **DISCOVER** action will use the alias name instead of the original data set name. The following parameters will be populated with alias names if they exist: **KD2\_DBnn\_DB2\_LOADLIB**, **KI2\_I1nn\_CLASSIC\_IMS\_RESLIB**, **KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN**.
- After performing a **DISCOVER** action, review the messages about discovery in the KCIPRINT SYSOUT data set.
- The output of the **DISCOVER** action depends on the subsystem. For more information, see the following topics:
  - [“Parameters created by the DISCOVER action” on page 244](#)
  - [“Members created by the DISCOVER action” on page 245](#)
- On the first run, the **DISCOVER** action creates members for each type of subsystem it discovers. On subsequent runs, if the discovery member for a subsystem exists, it will not be overwritten, but instead a comment member (*Kpp#lpar*) will be created. You must then review the members and manually apply the updates that you want to keep. For more information, see [“First-time discovery versus rediscovery” on page 246](#).

To run a discovery using the **DISCOVER** action, use the following procedure.

## Procedure

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **DISCOVER** action.
2. Specify values for the required parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
3. Run the KFJJMCM job to discover the available subsystems.  
The **DISCOVER** action creates the discovery members in the RTEDEF data set and populates the parameters with discovered values. Job messages for the **DISCOVER** action are written to the KCIPRINT SYSOUT data set.
4. Review the content in the discovery members and update as necessary.

## Discovering subsystems

The following JCL discovers subsystems on the LPAR ZOS1 and creates corresponding members in TSQUID.MONSUITE.RTEDEF. For example, if the **DISCOVER** action discovers Db2® subsystems, then it creates the member KD5@ZOS1; or, if that member already exists, KD5#ZOS1.

Figure 28: Example JCL to perform the **DISCOVER** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIALPHA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION DISCOVER
RTE_NAME RTE1
RTE_PLIB_HILEV TSQUID.MONSUITE
/*
```

The JES2 **SYSAFF** job parameter ensures that the job runs, and the **DISCOVER** action discovers subsystems, on LPAR ZOS1.

## Stand-alone discovery using defaults

The following JCL is used to perform a stand-alone discovery that uses default values.

If you want to discover IMS systems using the stand-alone run of the **DISCOVER** action and specify different prefixes for started task and VTAM applids, specify the prefixes of your choice in the **RTE\_VTAM\_APPLID\_PREFIX** and **RTE\_STC\_PREFIX** parameters. This way the VTAM and started task prefixes will be honored accordingly in member RTEDEF (*KI5@lpar*).

Figure 29: Example JCL to perform a stand-alone discovery using the **DISCOVER** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIALPHA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION                DISCOVER
RTE_NAME              RTE1
RTE_PLIB_HILEV        TSUID.MONSUITE

RTE_STC_PREFIX        OMEG
RTE_VTAM_APPLID_PREFIX OM&SYSCLONE.
/*
```

If you do not have any SMP/E target libraries on the system on which you want to run a stand-alone **DISCOVER** action, you can use the utility, TKANSAM (KFJMAINT), with action **BLDREMDS** to build the necessary minimum data sets (TKANSAM, TKANMOD, and TKANCUS libraries) needed to run the action. Make sure you transfer the created data sets to your remote system where the stand-alone **DISCOVER** should run and where the necessary APF authorization of the TKANMOD library is made.

## Parameters created by the DISCOVER action

The **DISCOVER** action creates parameters for each subsystem it discovers.

### Overview of output

The output of the **DISCOVER** action depends on the subsystem:

Table 27: Output of the <b>DISCOVER</b> action	
Subsystem	Output
Db2®, IMS, TCP/IP	Parameters that configure the runtime environment to monitor these subsystems. For Db2®, you need to <a href="#">complete the discovered details</a> .
CICS®	Parameters that specify an historical datastore allocation table for task history file disposition.
MQ	Statements using embed overrides that you can place in the KMQ\$CUSR embed override member:  <pre>SET MANAGER NAME(<i>queue-manager</i>)</pre>

In addition to the subsystem discovery, a member is created that contains the System symbols that can be used by the **GENERATE** action along with the respective **KCIPARSE** extracted variables. For more information, see [“RTEDEF\(SYS@lpar\)” on page 248](#).

### Parameters

The following table lists the parameters created by the **DISCOVER** action.

The parameters created depend on which program performs the action: KCIOMEGA or KCIALPHA.

In general, KCIOMEGA discovers only the subsystem identifier. For detailed discovery, use KCIALPHA.

Table 28: Parameters created by the <b>DISCOVER</b> action			
Subsystem	Parameter ( <i>nn</i> is the 2-digit table row number)	KCIOMEGA	KCIALPHA
CICS®	KC2_HSnn_CLASSIC_CICS_REGION	No	Yes
Db2®	KD2_DBnn_DB2_SSID	Yes	Yes

Subsystem	Parameter ( <i>nn</i> is the 2-digit table row number)	KCIOMEGA	KCIALPHA
Db2®	KD2_DBnn_DB2_VER	No	Yes
Db2®	KD2_DBnn_DB2_DS_GROUP	No	Yes
Db2®	KD2_DBnn_DB2_LOADLIB	No	Yes
IMS	KI2_I1nn_CLASSIC_IMSID	Yes	Yes
IMS	KI2_I1nn_CLASSIC_IMS_RESLIB	No	Yes
MQ	For MQ subsystems, <b>DISCOVER</b> generates <b>SET MANAGER</b> statements, not parameters.	Yes	Yes
TCP/IP	KN3_TCPXnn_TCP_STC	Yes	Yes
TCP/IP	KN3_TCPXnn_TCPIP_PROFILES_DSN	No	Yes
TCP/IP	KN3_TCPXnn_TCPIP_PROFILES_MBR	No	Yes

### Members created by the DISCOVER action

The **DISCOVER** action creates members for each type of subsystem it discovers.

<i>Table 29: Members created by the DISCOVER action</i>	
Subsystem	Member name
CICS®	KC5@ <i>lpar</i> for first-time discovery KC5# <i>lpar</i> for rediscovery
Db2®	KD5@ <i>lpar</i> for first-time discovery KD5# <i>lpar</i> for rediscovery
IMS	KI5@ <i>lpar</i> for first-time discovery KI5# <i>lpar</i> for rediscovery
MQ	KMQ# <i>lpar</i>  <b>Note:</b> For MQ subsystems, only the KMQ# <i>lpar</i> member is created for both first-time discovery and rediscovery. For more information, see “RTEDEF(KMQ# <i>lpar</i> )” on page 247.
TCP/IP	KN3@ <i>lpar</i> for first-time discovery KN3# <i>lpar</i> for rediscovery
Symbols	SYS@ <i>lpar</i> for first-time discovery SYS# <i>lpar</i> for rediscovery

### Member naming convention

For subsystem and symbols discovery, the **DISCOVER** action creates RTEDEF library members with the following naming convention:

#### Prefix

For subsystem type: *Kpp* from the corresponding **CONFIGURE\_\*** parameter.  
For symbols: SYS.

#### Separator

An at sign (@) or a hash (#).  
A hash indicates that the member is a comment: the **GENERATE** action ignores these members.

**Note:** The at sign (@) appears in only some code pages. For example, when using CCSID 1141, it appears as "§" (0x7C).

## Suffix

Identifies the LPAR.

### First-time discovery versus rediscovery

The **DISCOVER** action does not overwrite *Kpp@lpar* or *SYS@lpar* members (“@” members).

If a *Kpp@lpar* or *SYS@lpar* member already exists, the **DISCOVER** action writes a comment member, *Kpp#lpar* or *SYS#lpar*, respectively, and then continues, eventually completing with return code 4. Review the comments about discovery in the KCIPRINT sysout data set, and then review the “#” members. Edit the existing “@” members to apply any preferred updates.

The **DISCOVER** action overwrites comment members.

#### RTEDEF (KC5@lpar)

If the **DISCOVER** action discovers CICS® regions, it creates the RTEDEF (KC5@lpar) member. This member contains parameters that configure the CICS® monitoring agent.

Figure 30: RTEDEF (KC5@lpar) member created by the **DISCOVER** action

```
* CICS regions discovered by KCIOMEGA
* SYSPLEX=<sysplex> LPAR=<lpar> DATE=<date>

KC2_HS                BEGIN                * Table begin *

KC2_HS01_ROW          01
KC2_HS01_CLASSIC_CICS_REGION "<region_name>"
KC2_HS01_CLASSIC_VSAM_CYL  1                                [1]

* More rows (one for each region discovered)...

KC2_HS                END                * Table end *
```

#### [1] KC2\_HS01\_CLASSIC\_VSAM\_CYL

If necessary, replace the initial value of 1 with an appropriate value for your site.

#### RTEDEF (KD5@lpar)

If the **DISCOVER** action discovers Db2® subsystems, it creates the RTEDEF (KD5@lpar) member. This member contains parameters that configure the Db2® monitoring agent.

Figure 31: RTEDEF (KD5@lpar) member created by the **DISCOVER** action

```
* Db2 subsystems discovered by KCIOMEGA
* SYSPLEX=<sysplex> LPAR=<lpar> DATE=<date>

KD2_DB                BEGIN                * Table begin *

KD2_DB01_ROW          01
KD2_DB01_DB2_SSID     "<ssid>"
KD2_DB01_DB2_DESCRIPTION "<ssid> Db2 subsystem"
KD2_DB01_DB2_VER      "<version>"
KD2_DB01_DB2_SYSNAME  "<lpar>"
KD2_DB01_DB2_PROFID   "P001"
KD2_DB01_DB2_DS_GROUP "N"
KD2_DB01_DB2_MONITOR_START "N"
KD2_DB01_DB2_PORT_NUM "2000"
KD2_DB01_DB2_LOADLIB  "<dsname>"                                [1]
KD2_DB01_DB2_DSNTIAD "DSNTIAD"
KD2_DB01_DB2_RUNLIB   ""

* More rows (one for each subsystem discovered)...

KD2_DB                END                * Table end *
```

The **DISCOVER** action only discovers the parameter values shown in the previous figure in *italics*. You must complete or edit the other parameters.

#### [1] KD2\_DBnn\_DB2\_LOADLIB

If an alias is defined for the data set, the alias name will be used for the parameter value instead of the original data set name.

#### RTEDEF (KI5@lpar)

If the **DISCOVER** action discovers IMS control regions, it creates the RTEDEF (KI5@lpar) member. This member contains parameters that configure the IMS monitoring agent.

Figure 32: RTEDEF (KI5@lpar) member created by the **DISCOVER** action

```

* IMS control regions discovered by KCIOMEGA
* SYSPLEX=<sysplex> LPAR=<lpar> DATE=<date>

KI2_I1                                BEGIN                                * Table begin *

KI2_I101_ROW                          01
KI2_I101_CLASSIC_IMSID                "<imsid>"
KI2_I101_CLASSIC_MPREFIX              "M<n>"
KI2_I101_CLASSIC_GLOBAL                ""
KI2_I101_CLASSIC_STC                  "<rte_stc_prefix>0I<n>"
KI2_I101_CLASSIC_VTAM_NODE            "<rte_vtam_applid_prefix>0I<n>N"
KI2_I101_CLASSIC_VTAM_APPL_LOGON     "<rte_vtam_applid_prefix>0I<n>"
KI2_I101_CLASSIC_IMS_RESLIB           "<dsname>"                                [1]
KI2_I101_CLASSIC_LROWS                "255"
KI2_I101_CLASSIC_USER_PROFILE         "/C"
KI2_I101_CLASSIC_CTRL_UNIT_ADDR      "XXXX"

* More rows (one for each control region discovered)...

KI2_I1                                END                                * Table end *

```

The **DISCOVER** action only discovers the values of the **KI2\_I101\_CLASSIC\_IMSID** and **KI2\_I101\_CLASSIC\_IMS\_RESLIB** parameters.

For other parameters, **DISCOVER** generates placeholder values. Review these values and, if necessary, edit them to match your site requirements.

**[1] KI2\_I1nn\_CLASSIC\_IMS\_RESLIB**

If an alias is defined for the data set, the alias name will be used for the parameter value instead of the original data set name.

**RTEDEF (KMQ#lpar)**

If the **DISCOVER** action discovers MQ subsystems, it creates the RTEDEF (KMQ#lpar) member. This member contains **SET MANAGER** statements that you can use in the KMQ\$CUSR embed override member.

Figure 33: RTEDEF (KMQ#lpar) member created by the **DISCOVER** action

```

* MQ subsystems discovered by KCIOMEGA
* SYSPLEX=sysplex LPAR=lpar DATE=date

SET MANAGER NAME(*)

*SET MANAGER NAME(queue-manager)

* More SET MANAGER statements (one for each queue manager discovered)...

```

When discovering MQ subsystems, the **DISCOVER** action creates only a comment member, as indicated by the hash (#) in the member name. This is unlike the discovery of other types of subsystems, where the **DISCOVER** action creates members that contain configuration parameters and have the at sign (@) in the member name. Discovery of MQ subsystems is for informational purposes only.

The IBM OMEGAMON® for Messaging on z/OS, IBM MQ Monitoring agent performs its own discovery and, by default, will monitor any queue manager on the LPAR. The default setting of SET MANAGER NAME(\*) is recommended because it allows you to change your queue manager configuration without having to change agent parameters.

If you want to name particular queue managers, you can specify multiple statements of SET MANAGER NAME(queue-manager).

Because it is a comment member, the information in KMQ#lpar is not used for agent configuration directly. However, you can use the information that was discovered and is provided in the KMQ#lpar member in your KMQ\$CUSR embed override member.

**RTEDEF (KN3@lpar)**

If the **DISCOVER** action discovers TCP/IP stacks, it creates the RTEDEF (KN3@lpar) member. This member contains parameters that configure the networks monitoring agent.

Figure 34: RTEDEF (KN3@lpar) member created by the **DISCOVER** action

```

* TCP/IP stacks discovered by KCIOMEGA
* SYSPLEX=<sysplex> LPAR=<lpar> DATE=<date>

KN3_TCPX          BEGIN          * Table begin *

KN3_TCPX01_ROW    01
KN3_TCPX01_TCP_STC "<task-name>"
KN3_TCPX01_SYS_NAME "<lpar>"
KN3_TCPX01_TCPIP_PROFILES_DSN "<dsname>" [1]

KN3_TCPX01_TCPIP_PROFILES_MBR "<member-name>"

* More rows (one for each stack discovered)...

KN3_TCPX          END            * Table end *

```

### [1] KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN

If an alias is defined for the data set, the alias name will be used for the parameter value instead of the original data set name.

#### RTEDEF(SYS@lpar)

The **DISCOVER** action creates the RTEDEF(SYS@lpar) member. This member contains system symbols and KCIPARSE extracted variables needed by the **GENERATE** action.

The primary use is, in conjunction with parameter **KFJ\_SYSNAME**, to allow you to pre-generate RTEs on a single local system without having to run the **GENERATE** step on the remote system.

*Figure 35: RTEDEF(SYS@lpar) member created by the **DISCOVER** action*

```

* System Symbols discovered by KCIOMEGA
* SYSPLEX=sysplex LPAR=lpar DATE=date

HLQPLEX          "hlqplex"          'S'
HSMHOST          "2"              'S'
HSMPRI           "YES"            'S'
NUMSYS           "2"              'S'
PLEXNAME         "plexname"       'S'
RTHLQ            "RSRTE"          'S'
SMFID            "smfid"           'S'
SUFFIX           "RS"             'S'
SYSALVL          "2"              'S'
SYSCLONE         "B2"             'S'
SYSLVL           "205"            'S'
SYSNAME          "name"           'S'
SYSOSLVL         "Z1020500"        'S'
SYSPLEX          "sysplex"        'S'
SYSR1            "RZ205A"         'S'
UNIXVER          "V2R05"          'S'
ZDDD             "SAT."           'S'
...
SYSSMFID         "sysmfid"        'K'
SYSSMS           "Y"              'K'
SYSVTAMNETID    "TESTNET1"        'K'
SYSVTAMSSCP     "RSB2SSCP"        'K'
SYSIP            "Y"              'K'
SYSIPADDRESS    "123.456.78"       'K'
SYSIPADDRESS_F  "123.456.789.012" 'K'
SYSIPHOSNAME    "hostname"        'K'

```

## GENERATE

The **GENERATE** action generates runtime members for a runtime environment from a set of configured parameters.

### Before you begin

Before performing a **GENERATE** action for an existing runtime environment, stop the started tasks for that runtime environment. Started tasks can lock runtime members, such as persistent data store data sets. Locked runtime members can cause the **GENERATE** action to fail.

**Note:** You can also use the **GENERATE** action to make a copy of your SMP/E target libraries. For more information, see [“Using SMP/E target library copies” on page 352](#).

**If you are familiar with PARMGEN:** PARMGEN uses several scenarios to perform maintenance actions. With Configuration Manager, numerous maintenance scenarios are not needed. The **GENERATE** action performs in one job what previously required multiple steps for the various maintenance scenarios. All of the PARMGEN scenarios are replaced by the **GENERATE** action.

## About this task

With the **GENERATE** action, you can generate the runtime members and started tasks for your runtime environment.

The following list provides details about the **GENERATE** action:

- The **GENERATE** action generates runtime members from the parameters in the runtime environment definition library, *rte\_plib\_hilev*.RTEDEF. The **GENERATE** action builds the set of parameters that is used by concatenating the corresponding RTEDEF library members.
- Run the **GENERATE** action on the LPAR where you will start the runtime environment. For example, if your site uses JES2, insert a **SYSAFF** job parameter after the **JOB** statement to ensure that the job runs on that LPAR.
- If the RTEDEF library contains LPAR-specific members, then the **GENERATE** action uses the LPAR-specific members for the LPAR where the **GENERATE** action is running. For example, consider the RTEDEF library that contains the following members:  
KDS\$PARM  
KDS\$ZOS1  
KDS\$ZOS2  
If you run the **GENERATE** action on LPAR ZOS1, then the **GENERATE** action uses the non-LPAR-specific member KDS\$PARM and the LPAR-specific member KDS\$ZOS1, but not the LPAR-specific member KDS\$ZOS2.
- Specify **KFJ\_LOCAL\_PLIB\_HILEV** in the KCI VARS DD, along with **KFJ\_SYSNAME**, if you are generating a runtime environment that will be deployed using a different local high-level qualifier. For more information about this remote deployment scenario, see [“Remote deployment example using local libraries” on page 343](#).

**Important:** If you are using different settings for the local generation of the runtime environment, there are some limitations regarding the parameters that can be customized. Certain parameters are not allowed in the respective RTEDEF members. If any of these parameters are explicitly specified in the RTEDEF members, message **KFJQ0213E** is returned in KCI PRINT and the workflow stops. To continue, remove these parameters from the RTEDEF data set members and re-run the **GENERATE** action. For the list of parameters, see [“Parameters that cannot be customized for remote deployment” on page 350](#).

- You can use the **OPTION** parameter for the **GENERATE** action to control certain processing. For information about the available options, see [“GENERATE options” on page 251](#).
- After you run the **GENERATE** action, you can review a list of the members that were not replaced when the work (WK\*) libraries were copied to the runtime (RK\*) libraries due to having been defined in an exclude list. The list of members is provided in the exclude report, which is identified by the EXCLRPT DD statement. The exclude report is generated only for the **GENERATE** action without any options specified, or with only **OPTION NOUSS** or **OPTION QUICKCONFIG** specified. For more information, see [“Members excluded during GENERATE action” on page 256](#).

To generate runtime members for a runtime environment using the **GENERATE** action, use the following procedure.

## Procedure

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **GENERATE** action.

2. Specify values for the required parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
3. (Optional) To generate a runtime environment that will be deployed using a different local high-level qualifier, specify **KFJ\_LOCAL\_PLIB\_HILEV** and **KFJ\_SYSNAME**.
4. (Optional) To validate your RTEDEF data set before running the **GENERATE** action, add **OPTION VALIDATE**, then run the KFJJMCM job. Review the job output and correct any identified problem.

**Note:** You cannot use the **VALIDATE** option with any other **OPTION** value.

5. (Optional) To prepare intermediate work libraries, specify **OPTION PREPARE**, then run the KFJJMCM job.

**Note:** You cannot use the **PREPARE** option with any other **OPTION** value.

6. (Optional) To bypass select configuration steps, specify the following options using the **OPTION** parameter, as needed. To specify multiple options, separate the values with a comma and no spaces.
  - To bypass configuration processing for z/OS® UNIX® System Services, specify option **NOUSS**.
  - To bypass configuration processing for security exits, specify option **NOSEEXITS**.
  - To bypass assembling and linking IBM Z OMEGAMON AI for Networks (KN3) or OMEGAMON enhanced 3270 user interface (KOB) modules, specify option **NORELINK**.
7. To run the **GENERATE** action to create the runtime members, remove **OPTION VALIDATE** (if present), and then run the KFJJMCM job.  
Job messages for the **GENERATE** action are written to the KCIPRINT SYSOUT data set.
8. (Optional) On subsequent runs of the **GENERATE** action, you can perform select configuration steps by specifying the following options using the **OPTION** parameter, as needed. To specify multiple options, separate the values with a comma and no spaces.
  - To run only the **GENERATE** workflow stage that deploys the parts related to z/OS® UNIX®, specify option **USS**.
  - To perform configuration processing for security exits only, specify option **SEEXITS**.
  - To perform only the step that loads the read-only configuration members to the RK\* data sets, specify option **QUICKLOAD**.

**Note:** You can use the **QUICKLOAD** option with the **USS** and **SEEXITS** options, but you cannot use it with the **NOUSS** option.

- To update the configurable members for the runtime environment (for example, in the RKANPARU, RKANAMU, and RKANCMU libraries) without refreshing data from SMP/E target libraries, specify option **QUICKCONFIG**.

**Note:** You cannot use the **QUICKCONFIG** option with the **VALIDATE** option or the **NOUSS** option.

- To only assemble and link elements, specify option **RELINK**.

The following JCL generates runtime members for the runtime environment that is defined by members of the TSQUID.MONSUITE.RTEDEF library, including RTE1 and LPAR-specific configuration profile members such as Kpp\$ZOS1.

Figure 36: Example JCL to perform the **GENERATE** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
```

```
//KCIFLOW DD DISP=SHR,DSN=MONSUIE.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION          GENERATE
RTE_NAME        RTE1
RTE_PLIB_HILEV TSQUID.MONSUIE
/*
```

Note the JES2 **SYSAFF** parameter that causes the job to run on LPAR ZOS1.

## GENERATE options

You can use the **OPTION** parameter for the **GENERATE** action to control certain processing. This topic describes the available options for use with the **GENERATE** action.

### Overview of GENERATE options

“Overview of **GENERATE** options” on page 251 provides an overview of the **GENERATE** options that are available. Each of the available options is described in more detail in “**GENERATE** OPTION keywords” on page 252.

OPTION	Abbreviation	Description
<u>USS</u>	–	Run only the <b>GENERATE</b> workflow stage that deploys the parts related to z/OS® UNIX® System Services. This option requires a complete run of the <b>GENERATE</b> action prior to use.
<u>NOUSS</u>	–	Do not run the z/OS® UNIX® deploy stage in the <b>GENERATE</b> action.
<u>SECEXITS</u>	SEC	Perform configuration processing for security exits only. This option requires a complete run of the <b>GENERATE</b> action prior to use.
<u>NOSECEXITS</u>	NS	Do not perform configuration processing for security exits.
<u>VALIDATE</u>	VAL	Perform validation of RTEDEF parameters.
<u>QUICKLOAD</u>	QL	Load the read-only configuration members to the RK* data sets. The read-only members are those members that are not impacted by customization during configuration. This option requires a complete run of the <b>GENERATE</b> action prior to use.
<u>QUICKCONFIG</u>	QC	Update the configurable members for the runtime environment (for example, in the RKANPARU, RKANSAMU, and RKANCMU libraries) without refreshing data from SMP/E target libraries. This option requires a complete run of the <b>GENERATE</b> action prior to use.
<u>RELINK</u>	LINK	Assemble and link edit modules for OMEGAMON for Networks (KN3) and OMEGAMON enhanced 3270 user interface (KOB). This option requires a complete run of the <b>GENERATE</b> action prior to use.
<u>NORELINK</u>	NL	Do not assemble and link edit modules for OMEGAMON for Networks (KN3) and OMEGAMON enhanced 3270 user interface (KOB).
<u>TRGCOPY</u>	TRG	Make a copy of your SMP/E target libraries, from which you can create or update your runtime environments.
<u>PREPARE</u>	PREP	Prepare work data sets for your runtime environment. You can use this option to build the work data sets before other <b>GENERATE</b> action stages, in preparation of OMEGAMON installation or maintenance.

To specify more than one option, separate the values with a comma and no spaces. For example: **OPTION USS, SECEXITS**

### Compatibility of GENERATE options

Some options are not compatible to run with other options during the same job. “Compatibility of **GENERATE** options” on page 251 indicates which options are compatible. **Y** in the table cell indicates that you can specify the two options together in the same job. **N** in the table cell indicates that you cannot specify the two options together in the same job.

	USS	NOUSS	SECEXITS	NOSECEXITS	VALIDATE	QUICKLOAD	QUICKCONFIG	RELINK	NORELINK	TRGCOPY	PREPARE
USS	–	N	Y	N	N	Y	Y	Y	N	N	N

	USS	NOUSS	SECEXITS	NOSECEXITS	VALIDATE	QUICKLOAD	QUICKCONFIG	RELINK	NORELINK	TRGCOPY	PREPARE
NOUSS	N	—	N	Y	N	N	N	N	Y	Y	N
SECEXITS	Y	N	—	N	N	Y	Y	Y	N	N	N
NOSECEXITS	N	Y	N	—	N	N	N	N	Y	N	N
VALIDATE	N	N	N	N	—	N	N	N	N	N	N
QUICKLOAD	Y	N	Y	N	N	—	Y	Y	N	N	N
QUICKCONFIG	Y	N	Y	N	N	Y	—	Y	N	N	N
RELINK	Y	N	Y	N	N	Y	Y	—	N	N	N
NORELINK	N	Y	N	Y	N	N	N	N	—	N	N
TRGCOPY	N	Y	N	N	N	N	N	N	N	—	N
PREPARE	N	N	N	N	N	N	N	N	N	N	—

## GENERATE OPTION keywords

### USS | NOUSS

You can optionally control when to run the **GENERATE** workflow stage that deploys the parts related to z/OS® UNIX®. By default, the **GENERATE** action automatically performs any required z/OS® UNIX® configuration. However, there might be cases where you would want to skip this step (for reasons such as authorization issues), and perform this step at a later time. You can use the **OPTION** parameter to specify the **USS** or **NOUSS** value to control this processing, as follows:

#### USS

When **OPTION USS** is specified, the **GENERATE** action runs only the stage that deploys the parts related to z/OS® UNIX®; no other processing is performed (unless another **OPTION** value is also specified, such as **SECEXITS**). You cannot use this option on the initial run of the **GENERATE** action for a new runtime environment; it can only be used on subsequent runs.

#### Important:

- You must perform a complete run of the **GENERATE** action before you can use **OPTION USS**.
- If you have changed any parameters inside your RTEDEF members that impact z/OS® UNIX® configuration, do not use **OPTION USS**, because it will not capture your parameter changes. Instead, run action **GENERATE** with **OPTION NOUSS** (or without the option) to reconfigure the members related to z/OS® UNIX®. Then, you can use **OPTION USS** to move the updated members to z/OS® UNIX®.

#### NOUSS

When **OPTION NOUSS** is specified, the **GENERATE** action does not run the stage that deploys the parts related to z/OS® UNIX®. You can use this option on the initial run of the **GENERATE** action for a new runtime environment, as well as on subsequent runs.

### SECEXITS | NOSECEXITS

You can optionally control when to perform configuration processing for security exits. By default, the **GENERATE** action automatically performs the required configuration tasks for security exits, which includes rebuilding and relinking the security exits into the RKANMODU load library. By performing these tasks separately from other stages, you can save valuable CPU cycles and isolate when additional authorization is needed, which might be the case when updating the load library.

You can use the **OPTION** parameter to specify the **SECEXITS** or **NOSECEXITS** value to control this processing, as follows:

#### SECEXITS

When **OPTION SECEXITS** is specified, the **GENERATE** action performs configuration for security exits only; no other processing is performed (unless another **OPTION** value is also specified, such as **USS**). You cannot use this option on the initial run of the **GENERATE** action for a new runtime environment; it can only be used on subsequent runs.

**Important:** You must perform a complete run of the **GENERATE** action before you can use the **SECEXITS** option.

## NOSECEXITS

When **OPTION NOSECEXITS** is specified, the **GENERATE** action does not perform configuration processing for security exits. You can use this option on the initial run of the **GENERATE** action for a new runtime environment, as well as on subsequent runs.

**Tip:** This option does not update the RKANMODU load library, a data set that might require more restrictive authorization for updating. If you use this option together with option **NORELINK**, the **GENERATE** action does not update the RKANMODU library, and you can perform the other **GENERATE** configuration steps that do not require additional access.

For more information about creating your security exits library, see [“Setting up security exits in your runtime environment”](#) on page 336.

## VALIDATE

**OPTION VALIDATE** performs a validation of the parameters specified in the RTEDEF data set. Using this option helps you to prepare for running the full **GENERATE** action. You cannot use the **VALIDATE** option with any other **OPTION** value.

To ensure that your configuration is correct, **OPTION VALIDATE** performs the following steps:

- Verifies that all parameters have correct values defined and that no required parameters are missing. If any problems are found, the sysout data sets include the parameter validation report (**\$VALRPT**). If this report is generated, review the report and correct the identified parameters.
- Checks that any symbol used in a parameter value is properly defined. If an undefined symbol is encountered, message **KFJ00253E** is issued for each undefined symbol.
- Re-creates interim and work libraries.

**Attention:** If you previously used PARMGEN for configuration, be aware that using the **GENERATE** action with **OPTION VALIDATE** will re-create the WCONFIG data set, which will invalidate the PARMGEN configuration. This means that if you migrate a runtime environment from PARMGEN to Configuration Manager using the **MIGRATE** action, and then perform the **GENERATE** action with **OPTION VALIDATE**, you can no longer use the PARMGEN configuration.

## QUICKLOAD

Using **OPTION QUICKLOAD**, you can load the read-only configuration members to the RK\* data sets. The read-only members are those members that are not impacted by customization during configuration.

**OPTION QUICKLOAD** is compatible with the **USS** and **SECEXITS** options, but is not compatible with the **VALIDATE** and **NOUSS** options. This option requires a complete run of the **GENERATE** action prior to use.

## QUICKCONFIG

With this option, you can quickly reconfigure your products without reloading the read-only runtime members or refreshing data from SMP/E target libraries. Using this option can improve performance, with the most impact experienced when using a full runtime environment (**RTE\_TYPE** parameter is set to FULL).

When **OPTION QUICKCONFIG** is specified, the **GENERATE** action updates the configurable members for the runtime environment (for example, in the RKANPARU, RKANSAMU, and RKANCMDU libraries) without refreshing data from SMP/E target libraries. The read-only members, which are members that are not impacted by customization during configuration, are not loaded to the RK\* data sets.

More specifically, running the **GENERATE** action with **OPTION QUICKCONFIG** performs the following actions:

- Validates parameters

- Allocates missing data sets
- Updates configurable members for the runtime environment (for example, in the RKANPARU, RKANSAMU, and RKANCMU libraries)
- Updates started tasks, VTAM list, and VTAM node
- Updates z/OS® UNIX®-related members, but does not deploy them to the z/OS® UNIX® directories or files. To deploy prepared members to z/OS® UNIX® files or directories, you must combine the **QUICKCONFIG** option with the **USS** option.

Running the **GENERATE** action with **OPTION QUICKCONFIG** does not perform the following actions:

- Refresh data from SMP/E target libraries
- Update read-only modules from SMP/E target libraries
- Update z/OS® UNIX® files or directories
- Perform any assembly or linking operations related to security exits or other load modules

You cannot use the **QUICKCONFIG** option with the **VALIDATE** option or the **NOUSS** option. The **QUICKCONFIG** option requires a complete run of the **GENERATE** action prior to use.

## RELINK | NORELINK

You can optionally control when to assemble and link elements into the RKANMODU load library when a relink of IBM Z OMEGAMON AI for Networks (KN3) or OMEGAMON enhanced 3270 user interface (KOB) modules is required, such as when applying maintenance. By default, the **GENERATE** action automatically performs these steps. By performing these tasks separately, you can isolate when additional authorization is needed, which might be the case when updating the load library.

You can use the **OPTION** parameter to specify the **RELINK** or **NORELINK** value to control this processing, as follows:

### RELINK

Use **OPTION RELINK** to assemble and link elements into the RKANMODU load library when a relink of IBM Z OMEGAMON AI for Networks (KN3) or OMEGAMON Enhanced 3270 User Interface (KOB) modules is required, such as when applying maintenance. You cannot use this option on the initial run of the **GENERATE** action for a new runtime environment; it can only be used on subsequent runs.

**Important:** You must perform a complete run of the **GENERATE** action before you can use the **RELINK** option.

**Note:** If you are familiar with PARMGEN, the **RELINK** option performs the same function as the PARMGEN KCIJPLNK job (**Run post-SMP/E RKANMODU ASM/LINK steps**).

**Tip:** You can customize the binder program that is used by specifying the program name in parameter `"GBL_UTIL_BINDER"` on page 294.

When using the **GENERATE** action with **OPTION RELINK**, the details differ depending on the environment where the action runs, as follows:

#### On a local system (the *configuration system* in a remote deployment scenario)

You can run the **GENERATE** action with **OPTION RELINK** on a local system to assemble and link elements.

#### On a remote environment with a different z/OS level

You can run the **GENERATE** action with **OPTION RELINK** on a target system that is at a different z/OS level than the configuration system. You do not need to run all the steps in the remote deployment scenario (**GENERATE** action, **PACKAGE** action, transfer data sets, **DEPLOY** action).

Using the **RELINK** option requires the SMP/E library TKANMODS to be present on the target system. The TKANMODS library is not part of the full runtime environment, and it is not created by the **BLDREMDS** action. In other words, you must have an SMP/E environment present to ensure consistency. As a result, you must run Configuration Manager from the same SMP/E libraries.

You can rerun the **GENERATE** action with **OPTION RELINK** as needed.

When you use the **RELINK** option to relink modules on a remote environment at a different z/OS level, you might have different settings in the libraries set by parameters **GBL\_DSN\_SYS1\_MACLIB** and **GBL\_DSN\_CEE\_SCEELKED** than what you would have on your local system. If there are significant differences in the contents of those libraries, which control how modules are being assembled and linked, then you should run the **GENERATE** action with **OPTION RELINK** on the target system.

#### On a remote environment with the same z/OS level

You can run the **GENERATE** action with **OPTION RELINK** on a target system that is at the same z/OS level as the configuration system. In this environment, there is not an SMP/E environment on the target system, and only the minimal set of libraries is transferred to perform the **DEPLOY** action.

You can run the following series of steps:

1. **GENERATE** action with **OPTION RELINK**
2. **PACKAGE** action
3. Transfer of data sets
4. **DEPLOY** action

This implementation saves CPU cycles on the **GENERATE** step.

#### For a full runtime environment

In a full runtime environment, you must run the **GENERATE** action with **OPTION QUICKLOAD, RELINK** to achieve the correct relinking results. (This requirement is due to a dependency on the RKANSAM data set).

#### NORELINK

When **OPTION NORELINK** is specified, the **GENERATE** action does not assemble and link the IBM Z OMEGAMON AI for Networks (KN3) or OMEGAMON enhanced 3270 user interface (KOB) modules, even if a relink is required. You can use this option on the initial run of the **GENERATE** action for a new runtime environment, as well as on subsequent runs.

**Tip:** This option does not update the RKANMODU load library, a data set that might require more restrictive authorization for updating. If you use this option together with option **NOSECEXITS**, the **GENERATE** action does not update the RKANMODU library, and you can perform the other **GENERATE** configuration steps that do not require additional access.

#### TRGCOPY

Use **OPTION TRGCOPY** to make a copy of your SMP/E target libraries, from which you can create or update your runtime environments. You can abbreviate this keyword to **TRG**. For more information, see [“Using SMP/E target library copies” on page 352](#).

#### PREPARE

Use **OPTION PREPARE** to prepare intermediate work libraries for your runtime environment. You can use this option to build the work data sets before other **GENERATE** action workflow stages, in preparation of OMEGAMON installation or maintenance. You might find this option useful if you have to perform other related tasks that require the work data sets ahead of time or in parallel, such as preparing members for Db2 binds or copying started task members to PROCLIB libraries.

With this option, you can run the **GENERATE** action with **OPTION PREPARE** initially to create the work data sets, and then, when you are ready, run the **GENERATE** option again (without the **PREPARE** option) to complete the additional workflow stages. You cannot use the **PREPARE** option with any other **OPTION** value.

**Important:** If you use the **PREPARE** option to create the work data sets, you must be at the same Configuration Manager maintenance level when you run subsequent **GENERATE** action jobs without the **PREPARE** option.

More specifically, running the **GENERATE** action with **OPTION PREPARE** performs the following actions:

- Validates parameter values
- Performs parsing steps
- Allocates and refreshes the interim staging (IK\*) and work (WK\*) libraries. These libraries will be copied to the runtime (RK\*) libraries later.
- Allocates and refreshes PROCLIB, VTAMLST, and VTAMLIB libraries. These libraries contain started tasks, VTAM lists, and VTAM nodes.

**Important:** Data sets specified in parameters **GBL\_DSN\_SYS1\_PROCLIB**, **GBL\_DSN\_SYS1\_VTAMLIB**, and **GBL\_DSN\_SYS1\_VTAMLST** will be impacted.

- Updates the global user library specified in parameter **GBL\_USER\_JCL**, which contains global parameters.

**Important:** Any changes to the following RTEDEF members will impact your existing runtime environment: **VAR\$GLOB**, **VAR\$lpar**, and **SYS@lpar**

- Creates a checkpoint. At the end of the job, the **GENERATE** action with **OPTION PREPARE** creates member **\$PREPARE** in the **WKPANPARU** library and populates it with the checkpoint creation date and time, as follows:

```
***** Top of Data *****  
* Checkpoint created by userID on yyyy-mm-dd hh:mm:ss  
***** Bottom of Data *****
```

If the checkpoint is detected, subsequent **GENERATE** action jobs (without the **PREPARE** option) bypass the workflow stages performed by the **PREPARE** option and resume processing with the remaining workflow stages. The **GENERATE** action then deletes the **\$PREPARE** member at the end of the job.

**Note:** The checkpoint is not removed if any of the following options are used: **USS**, **SECEXITS**, **RELINK**, **QUICKLOAD**

## Members excluded during **GENERATE** action

The Configuration Manager **GENERATE** action intentionally excludes some members when creating or refreshing the runtime (RK\*) libraries. The output from the **GENERATE** action job includes a report that lists the members that were not replaced in the runtime libraries.

### Exclude lists

To retain customized members in the runtime (RK\*) user libraries during maintenance, you can use exclude lists to define the members not to replace.

IBM-provided exclude list definitions are stored in member **KCI\$IW2R**. User-defined exclude list definitions are stored in the embeds data set (EMBEDS) in member **KCI\$XW2R**. You must add any member that you want saved to your EMBEDS (**KCI\$XW2R**) member.

**Note:** For more information about using override embed members and the embeds data set, see [“Using override embed members in Configuration Manager” on page 337](#).

When you run the **GENERATE** action, members that are defined in the exclude lists are not replaced when the work (WK\*) libraries are copied to the runtime (RK\*) libraries.

After you run the **GENERATE** action, you can review a list of the members that were not replaced in the runtime (RK\*) libraries. The list of members is provided in the exclude report, which is identified by the EXCLRPT DD statement.

**Exclude report (EXCLRPT)**

The exclude report (identified by the EXCLRPT DD statement) lists the members that were not replaced in the runtime (RK\*) libraries by the **GENERATE** action job.

The exclude report is included in the job output for the **GENERATE** action only. If the **OPTION** parameter is used, the exclude report is generated only for options **NOUSS** and **QUICKCONFIG**.

**Note:** Both the **NOUSS** and **QUICKCONFIG** options update the configurable members for the runtime environment.

The following figure shows an example of the exclude report:

```

=====
EXCLUDE members not replaced in RK* libraries:
=====
Library: TSUSER.RTE.RKANPARU
-----
KAYDEL                duplicate*
KAYOPEN              duplicate*
KJJLSLST             default
KC2GLB               default
KIPGLB99             default
KDSENV               user

* consider removing exclude statements from KCI$XW2R user
exclude member
-----
Library: TSUSER.RTE.RKANSAMU
-----
CTKMQ00              default
KC2GLB               default**
KC2GLBCP             default
KC2GLBCR             default
KC2GLBVR            default
KC2GLBCR             default
KC2GLBCV            default
KC2GLBVR            default
KC2GLB99             default

** global definitions members are regenerated by the
configuration tool
-----
Library: TSUSER.RTE.RKD2PRF
-----
DB2PROF              user
-----
Library: TSUSER.RTE.RKD2SAM
-----
ALLOCD               user

```

Figure 37: Example exclude report (EXCLRPT)

The following details describe the contents of the exclude report:

- The exclude report provides the status of excluded members for the following libraries:
  - RKANCMDU
  - RKANPARU
  - RKANSAMU
  - RKD2PAR
  - RKD2PRF
  - RKD2SAM

At least one excluded member must be found in the RK\* data set for the respective section to be included in the report. If there are not any members excluded across all runtime libraries, the exclude report is not written.

- The exclude report provides the status for each excluded member as follows:

## default

The member name is defined in the IBM-provided exclude list member KCI\$IW2R.

**Note:** Separate agent exclude rules are concatenated into the KCI\$IW2R member.

## user

The member name is defined in the user-defined exclude list member EMBEDS (KCI\$XW2R).

## duplicate

The member name is defined in both the IBM-provided exclude list member KCI\$IW2R and the user-defined exclude list member EMBEDS (KCI\$XW2R). The report uses an asterisk (\*) to emphasize duplicate members and provide guidance to remove the duplicate definitions.

**Tip:** Because the member is defined in the default IBM-provided exclude list member KCI\$IW2R, you can remove the member name from your user-defined exclude list member EMBEDS (KCI\$XW2R).

- The exclude report includes the global definitions members for the following products:
  - IBM OMEGAMON for CICS ([Overview of the Global Data Area](#))
  - IBM OMEGAMON for IMS ([KIPGLB global definitions members](#))

The report uses two asterisks (\*\*) to identify the global definitions members that are regenerated by Configuration Manager; these members are not affected by the exclude rules.

## DELETE

Use the **DELETE** action to delete the runtime libraries for your runtime environment.

### Before you begin

Review the following information before you use the **DELETE** action:

- The **DELETE** action requires the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters and values.
- If you are implementing a [remote deployment scenario](#) and used the **KFJ\_LOCAL\_PLIB\_HILEV** parameter when creating the runtime environment, you can also specify this parameter for the **DELETE** action, depending on your situation. For more information, see [“Deleting libraries used for remote deployment” on page 260](#).
- Review details about the data sets that are deleted by the **DELETE** action and those that are not affected, as follows:

#### Data sets that are deleted by the DELETE action

The **DELETE** action deletes the runtime libraries created by the **GENERATE** action. This includes the PARMGEN libraries that the **GENERATE** action creates: WCONFIG, interim staging, work, and global user JCL.

The following list describes the name patterns of the data sets that are affected by the **DELETE** action:

- Data sets that match the following name patterns:
  - rte\_plib\_hilev.rte\_name.\**
  - rte\_hilev.rte\_name.\**
  - rte\_vsam\_hilev.rte\_name.\**By default, these are all the same pattern, because the default value for *rte\_hilev* and *rte\_vsam\_hilev* is *rte\_plib\_hilev*.
- For the following data sets, the default values for these parameters, when not specified explicitly, include *rte\_name*, but custom values are allowed:
  - rte\_pds\_hilev.\**
  - rte\_pds2\_hilev.\**

- Data sets that match the following product-specific name patterns, if the respective products have been configured:

**IBM Z® OMEGAMON® AI for Db2**

KD2\_OMPE\_DSHLQ.\*  
KD2\_OMPE\_VSAM\_DSHLQ.\*

**IBM OMEGAMON for IMS on z/OS**

KI2\_LOGR\_EHLQ.KI2\_LOGR\_LS\_PREFIX.\*

- For remote deployment scenarios, if you used the **KFJ\_LOCAL\_PLIB\_HILEV** parameter for deploying remote environments, data sets that match the following name patterns:

*kfj\_local\_plib\_hilev.rte\_name.\**  
*kfj\_local\_hilev.rte\_name.\**  
*kfj\_local\_vsam\_hilev.rte\_name.\**  
*kfj\_local\_pds\_hilev.\**

**Note:** When deploying remote environments, the *rte\_\** parameters are for the remote runtime environments and the *kfj\_local\_\** parameters are for the local runtime environments. On a single run of the **DELETE** action, either *rte\_\** parameter values or *kfj\_local\_\** parameter values are used for the high-level qualifier.

**Data sets not affected by the DELETE action**

The **DELETE** action does not affect the following data sets:

- The runtime environment definition library: *rte\_plib\_hilev.RTEDEF*
- The security exits library, defined by **RTE\_X\_SECURITY\_EXIT\_LIB**
- The embed overrides library, defined by **RTE\_X\_OVERRIDE\_EMBEDS\_LIB**
- Any other data sets, such as persistent data store data sets, that have been allocated outside the *rte\_name*-based data set name patterns described previously
- z/OS® UNIX® System Services directories

**About this task**

The following list provides details about the **DELETE** action:

- The **DELETE** action uses the specified information and values in the configuration members to derive the names of the data sets to be deleted.
- You must perform the **DELETE** action on the system where the files to be deleted exist, which is significant in remote deployment scenarios.
- The **DELETE** action requires the **CONFIRM** workflow variable to delete the data sets. You can also use the **CONFIRM** parameter to preview the data sets that will be deleted. Specify the **CONFIRM** parameter in the **KCIVARS DD** statement with one of the following values:

**N**

(Default) List all data sets that will be deleted. The list appears in **KCIPRINT**.

**Important:** It is recommended that you review the list of data sets that will be deleted before performing the delete.

**Y**

Delete the data sets. The **DELETE** action deletes your runtime libraries, as described in [“Data sets that are deleted by the DELETE action”](#) on page 258.

**Procedure**

Perform the following steps on the system where the files to be deleted exist:

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **DELETE** action.
2. Add the **CONFIRM** workflow variable and set to N, which will allow you to review the list of data sets that will be deleted.
3. Specify values for the required parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
4. For remote deployment scenarios: If you are using remote deployment and want to delete data sets on the configuration system, specify the **KFJ\_LOCAL\_PLIB\_HILEV** parameter and value.
5. Run the KFJJMCM job to display the data sets that will be deleted.  
The list appears in the KCIPRINT SYSOUT data set.
6. Review the generated list of data sets that will be deleted.
7. If you are satisfied with the list of data sets that will be deleted, change the **CONFIRM** workflow variable to Y and run the KFJJMCM job.  
The **DELETE** action deletes your runtime libraries.

The following JCL deletes the runtime libraries for the runtime environment that is defined in the member TSOUID.MONSUITE.RTEDEF(RTE1).

Figure 38: Example JCL to perform the **DELETE** action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION          DELETE
CONFIRM         Y
RTE_NAME       RTE1
RTE_PLIB_HILEV TSOUID.MONSUITE
/*
```

Note the JES2 **SYSAFF** that causes the job to run on LPAR ZOS1. This is required only if the **RTE\_NAME** parameter in the TSOUID.MONSUITE.RTEDEF(RTE1) member refers to a variable whose value is LPAR-specific.

## Deleting libraries used for remote deployment

You can use the **DELETE** action to delete libraries used for remote deployment.

The process of deploying a remote environment using the Configuration Manager **PACKAGE** and **DEPLOY** actions results in multiple sets of data sets on multiple systems. In a remote deployment scenario, you create a runtime environment on a specific LPAR (the configuration system), package the runtime environment data sets into transferable dump data sets on the configuration system, transfer the packaged data sets to the remote target system (target system), and deploy the packaged runtime environment data sets on the target system. As mentioned previously, many data sets are created; and these data sets can also have different high-level qualifiers. Deleting these data sets manually would be a complex task. Instead, you can delete these data sets easily and accurately using the **DELETE** action.

Using the **DELETE** action, you can remove these data sets on the configuration system or the target system, and you must perform the **DELETE** action on the system where the files to be deleted exist. If you used the **KFJ\_LOCAL\_PLIB\_HILEV** parameter when creating the runtime environment, the **DELETE** action identifies and deletes the runtime environment that was generated for a remote system using different high-level qualifiers.

**Important:** It is recommended that you review the list of data sets that will be deleted by using the **CONFIRM** workflow variable set to N before performing the delete. After you are satisfied with the generated list, run the **DELETE** action using the **CONFIRM** workflow variable set to Y to delete the data sets.

The following examples describe which parameters to use with the **DELETE** action depending on your situation and assumes that you used **KFJ\_LOCAL\_PLIB\_HILEV** when creating your runtime environment.

**Note:** For information about the data sets that are affected, see [“Data sets that are deleted by the DELETE action” on page 258](#).

### Deleting data sets on the configuration system

To delete runtime environment data sets on the configuration system, run the **DELETE** action on the configuration system using the parameters in the following example. To indicate the high-level qualifier, note that both the **RTE\_PLIB\_HILEV** and **KFJ\_LOCAL\_PLIB\_HILEV** parameters are specified.

```
//KCIVARS DD *
ACTION          DELETE
CONFIRM         Y
RTE_NAME       RTE1
RTE_PLIB_HILEV TSOUID.TARG1
KFJ_LOCAL_PLIB_HILEV TSOUID.LOCL1
```

Figure 39: Example to delete data sets on the configuration system

This example will use the `TSOUID.LOCL1.RTEDEF(PCK$*)` members to generate the list of data sets to delete on the configuration system.

**Important:** Make sure to specify the correct values for the **RTE\_PLIB\_HILEV** and **KFJ\_LOCAL\_PLIB\_HILEV** parameters; otherwise, unexpected results might occur. It is important that you review the generated list of data sets to be deleted using the **CONFIRM** workflow variable set to **N**.

### Deleting data sets on the remote system (target system)

To delete runtime environment data sets on the target system, run the **DELETE** action on the target system using the parameters in the following example. To indicate the high-level qualifier, note that only the **RTE\_PLIB\_HILEV** parameter is specified.

```
//KCIVARS DD *
ACTION          DELETE
CONFIRM         Y
RTE_NAME       RTE1
RTE_PLIB_HILEV TSOUID.TARG1
```

Figure 40: Example to delete data sets on the remote system (target system)

This example will delete the data sets for the runtime environment on the target system with high-level qualifier `TSOUID.TARG1`, or as defined in `TSOUID.TARG1.RTEDEF(RTE1)`.

**Important:** Make sure to specify the correct value for the **RTE\_PLIB\_HILEV** parameter. If you inadvertently specify the value that was used for parameter **KFJ\_LOCAL\_PLIB\_HILEV** for parameter **RTE\_PLIB\_HILEV**, unexpected results might occur. It is important that you review the generated list of data sets that will be deleted using the **CONFIRM** workflow variable set to **N**.

## MIGRATE

The **MIGRATE** action imports configuration settings from a runtime environment that is configured with **PARMGEN** to one that is configured with Configuration Manager.

### Before you begin

Review the following information before you use the **MIGRATE** action:

- If you migrate a runtime environment that is configured with **PARMGEN** to one that is configured with Configuration Manager, you can no longer use **PARMGEN** to configure the runtime environment. For more information, see [“Comparison with PARMGEN” on page 216](#).
- In this task, *source* refers to the runtime environment that is configured with **PARMGEN**, and *target* refers to the runtime environment that is configured with Configuration Manager.

- Migration works only for OMEGAMON products that are supported by Configuration Manager. If the migration source contains other products configured by PARMGEN that are not supported by Configuration Manager, error message [KFJ00001E](#) is issued for the **MIGRATE** action in the KCIPRINT output, and the job ends. For the list of supported products, see [“Products supported by Configuration Manager” on page 214](#).
- Consider the naming convention that you will use for your target runtime environment. Source and target runtime environments can share the same high-level qualifier, which is referred to as an *in-place migrate*.

**Note:** Whereas PARMGEN stores parameters in `rte_plib_hilev.rte_name.WCONFIG` for each runtime environment, Configuration Manager stores parameters and variables in `rte_plib_hilev.RTEDEF`, which can contain definitions for multiple runtime environments. For more information about the differences between PARMGEN and Configuration Manager, see [“Comparison with PARMGEN” on page 216](#).

- The **MIGRATE** action supports migrating one or multiple PARMGEN runtime environments into a single Configuration Manager RTEDEF configuration. It is recommended that you decide prior to the migration of your first runtime environment whether you plan to migrate one or multiple runtime environments into a single RTEDEF.

**Note:** If you are going to set up a High Availability TEMS (HA TEMS), make sure only one runtime environment is defined in the RTEDEF (that is, the one used for the HA TEMS).

- For parameters that describe data set qualifiers, the **MIGRATE** action does not migrate parameters that have been customized with hardcoded values that partially match the PARMGEN `RTE_HILEV` parameter value. For example, if in your PARMGEN configuration, you have set parameter `KD2_OMPE_DSHLQ` to use value `TEST.RTE1.HLQ1`, and `RTE_HILEV` is set to `"TEST.RTE1"`, then `KD2_OMPE_DSHLQ` will not be migrated.  
Before migrating from PARMGEN to Configuration Manager, review your customized parameters that describe data set qualifiers. If you have customized data set names that partially match your PARMGEN configuration `RTE_HILEV` value, but use a hardcoded value instead of parameter reference `%RTE_HILEV%`, you must update the value to use `%RTE_HILEV%` in order for the parameter to migrate successfully.
- Before performing a **MIGRATE** action, make sure you have a backup of your source PARMGEN runtime environment. The next step in Configuration Manager after a migration is to generate runtime members using the **GENERATE** action. If you perform an in-place migration, the subsequent **GENERATE** action will overwrite the runtime environment data sets that were used by PARMGEN.

## About this task

With the **MIGRATE** action, you can import existing PARMGEN runtime environment configuration settings from a specific `WCONFIG` member into the Configuration Manager `rte_plib_hilev.RTEDEF`. The **MIGRATE** action reads the `WCONFIG` and other data sets from a PARMGEN installation, from which it creates the [sparse descriptors](#) containing the parameters, hiding every parameter setting that is considered a default or has not been changed. It also copies other files for system variables support, embed overrides, and security exits that are required to support the migration.

The following list provides details about the **MIGRATE** action:

- The **MIGRATE** action supports migrating one PARMGEN runtime environment at a time.
- You can migrate one or more PARMGEN runtime environments into a single Configuration Manager RTEDEF configuration. The default behavior of the **MIGRATE** action is to migrate only one runtime environment into the RTEDEF data set. Using the **OPTION MULTIPLE** parameter, you can migrate multiple runtime environments into a single RTEDEF data set. Each runtime environment migration requires a separate **MIGRATE** action job. If you plan to migrate multiple runtime environments into a single RTEDEF data set, make sure to include the **OPTION MULTIPLE** parameter on every **MIGRATE** action job, including the first one.

**Note:** You can abbreviate **OPTION MULTIPLE** to **OPTION MULTI**.

- The **MIGRATE** action creates the necessary members in the RTEDEF data set, as follows:

- When using the default behavior of the **MIGRATE** action to migrate one runtime environment into a single RTEDEF data set (omitting the **OPTION MULTIPLE** parameter), the **MIGRATE** action will create members of type *Kpp\$PARM* in the respective created RTEDEF data set, along with the *rte\_name* member for the runtime environment-specific parameters.
- When migrating multiple runtime environments into a single RTEDEF configuration, use parameter **OPTION MULTIPLE** and **KFJ\_SYSNAME** *lpar* in `KCIVARS DD`. The **MIGRATE** action will create members of type *Kpp\$lpar* in the RTEDEF data set, along with the *rte\_name* member for the runtime environment-specific parameters.  
On subsequent runs of the **MIGRATE** action, reuse the same **RTE\_PLIB\_HILEV** parameter value, but update the values for parameters **RTE\_NAME**, **KFJ\_MIGRATE\_WCONFIG**, and **KFJ\_SYSNAME** to create a new set of runtime environment parameter members. There is no limit on how many runtime environments can be migrated into a single RTEDEF data set.
- If the **MIGRATE** action detects that a specified target RTEDEF already contains *Kpp\$lpar* and *rte\_name* members, **MIGRATE** issues an error message and stops. Note that **MIGRATE** will detect *Kpp\$PARM* and *VAR\$GLOB* members in RTEDEF as well. Because these members are considered to have a sysplex scope, they can only exist in RTEDEF during the migration process if no additional *Kpp\$lpar* members are intended to be migrated into the same RTEDEF. Depending on the case, any of the following messages might appear: [KFJ00218E](#), [KFJ00219E](#), [KFJ00220E](#)
- The **MIGRATE** action accepts PARMGEN runtime environments with system variables. However, system variables are not copied unless you have chosen to override them in your PARMGEN configuration. Variables are copied to the RTEDEF member *VAR\$GLOB* for a default (single) **MIGRATE** action or member *VAR\$lpar* in a multiple **MIGRATE** action.
- For parameters that use variables as their values, unlike PARMGEN, Configuration Manager does not allow the parameter and the variable to have the same name. If such settings exist in your PARMGEN configuration, the **MIGRATE** action renames the variables automatically. In most cases, the suffix *\_R* is added to the variable name. For more information, see [“Variables migrated from PARMGEN” on page 335](#).
- The **MIGRATE** action allocates the security exits library with the default name *rte\_plib\_hilev.rte\_name*. *SECEXITS* (or, optionally, the name specified in the **KFJ\_SECURITY\_EXITS\_LIB** parameter). The **MIGRATE** action also copies the security exits used by the PARMGEN environment to the specified security exits library, and defines the source security exits library to the runtime environment using the **RTE\_X\_SECURITY\_EXIT\_LIB** parameter. For more information, see [“Setting up security exits in your runtime environment” on page 336](#).

**Important:** The **RTE\_X\_SECURITY\_EXIT\_LIB** parameter will contain the name of the security exits library used by the source PARMGEN environment; you must review this setting and update it if necessary before running the **GENERATE** action.

- If the use of override embed members is enabled by specifying parameter **KFJ\_USE\_EMBEDS** set to *Y*, the **MIGRATE** action allocates the embeds data set with the default name *rte\_plib\_hilev.rte\_name*. *EMBEDS* (or, optionally, the name specified in the **KFJ\_EMBEDS\_LIB** parameter). The **MIGRATE** action sets up the embeds data set, populates it with supported override embed parameters (if applicable), and defines it to the runtime environment using the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter. For more information, see [“Using override embed members in Configuration Manager” on page 337](#).
- The **MIGRATE** action works with the **KFJ\_LOCAL\_PLIB\_HILEV** parameter to allow for local generation of runtime environments for remote systems using different high-level qualifiers. When the **KFJ\_LOCAL\_PLIB\_HILEV** parameter is specified, the generated *kfj\_local\_plib\_hilev*.RTEDEF data set will contain an additional member: *PCK\$PARM* for a default (single) **MIGRATE** action, or member *PCK\$lpar* in a multiple **MIGRATE** action. This member allows locally generated runtime environments using a different data set high-level qualifier than the one intended to be used on the deployment target (for example, the production system).  
  
For more information about remote deployments, see [“Special considerations for SYSPLEX rollout” on page 323](#), [“RTEDEF\(PCK\\$PARM\)” on page 326](#), and [“Deploying remote runtime environments” on page 341](#).

#### After you run the **MIGRATE** action

After you run the **MIGRATE** action, you must carefully review the generated RTEDEF data set members to verify that the parameters have the expected values. You can use the report provided in the **MIGRATE** job

output identified by the MIGRPT DD statement to review details about the parameters. This report presents parameters in the following groups:

- Parameters that are migrated to the RTEDEF data set because their values are different from the default values
- Parameters that are always migrated, regardless of values being default or not
- Parameters that are not migrated because of having default values
- Parameters that are not migrated because they match the PARMGEN **RTE\_HILEV** parameter value

This report provides each parameter with its resolved value. Note that some parameters use system variables or are dependent on other parameters, and some parameters inherit values from other parameters and might be regarded as having default values. Additionally, some parameters have different default values than PARMGEN, as outlined in “Parameters with different default values than PARMGEN” on page 292.

**Important:** Verify that the data set high-level qualifiers, data set names, and z/OS® UNIX® System Services paths are correct, as a subsequent **GENERATE** action might overwrite existing files.

To migrate a PARMGEN runtime environment to a Configuration Manager runtime environment, use the following procedure.

**Note:** The **CONFIRM** workflow variable is not supported for the **MIGRATE** action.

## Procedure

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **MIGRATE** action.
2. Specify the required parameter values, as follows:
  - a. Specify values for the target environment that is to be configured with Configuration Manager in parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
  - b. Specify the name of the source WCONFIG data set in the **KFJ\_MIGRATE\_WCONFIG** parameter. This is the WCONFIG data set of the PARMGEN-configured runtime environment from which configuration settings are to be imported.
3. (Optional) Specify additional parameters as needed, for example:
  - To migrate this runtime environment into a RTEDEF data set containing multiple runtime environment configurations, add the **OPTION MULTIPLE** and **KFJ\_SYSNAME 1par** parameters. If this is a subsequent run of the **MIGRATE** action, reuse the same **RTE\_PLIB\_HILEV** parameter value, but update the values for parameters **RTE\_NAME**, **KFJ\_MIGRATE\_WCONFIG**, and **KFJ\_SYSNAME**.
  - To specify a different name for the security exits library, add the **KFJ\_SECURITY\_EXITS\_LIB** parameter and value.
  - To enable the use of override embed members, add the **KFJ\_USE\_EMBEDS** parameter set to Y and the **KFJ\_EMBEDS\_LIB** parameter and value.
4. Run the KFJJMCM job to perform the migration and generate the new RTEDEF data set. Job messages for the **MIGRATE** action are written to the KCIPRINT SYSOUT data set.
5. Review the generated RTEDEF data set members to verify that the parameters have the expected values. Verify that the data set high-level qualifiers, data set names, and z/OS® UNIX® paths are correct. You can also use the report provided in the **MIGRATE** job output identified by the MIGRPT DD to review details about the parameters.

The following JCL jobs migrate an existing PARMGEN configuration pointed to by *highlevel.WCONFIG* into an RTEDEF library *TSUID.MONSUITE.RTEDEF*. The first example is for a single runtime environment RTEDEF, and the second example is for a multiple runtime environment RTEDEF. These examples also specify that override embed members are enabled and provide custom data set names for the security exits and embeds libraries.

*Figure 41: Example JCL to perform the **MIGRATE** action for a single runtime environment RTEDEF*

```

//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUIITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
*
ACTION                MIGRATE
RTE_NAME              RTE1
RTE_PLIB_HILEV       TSOUID.MONSUIITE

KFJ_MIGRATE_WCONFIG   highlevel.WCONFIG

KFJ_SECURITY_EXITS_LIB TEST1.TST.DEMO.MYEXITS
KFJ_USE_EMBEDS        Y
KFJ_EMBEDS_LIB        TEST1.TST.DEMO.MYEMBEDS
/*

```

Figure 42: Example JCL to perform the **MIGRATE** action for a multiple runtime environment RTEDEF

```

//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUIITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
*
ACTION                MIGRATE
OPTION                MULTIPLE
RTE_NAME              RTE1
RTE_PLIB_HILEV       TSOUID.MONSUIITE

KFJ_MIGRATE_WCONFIG   highlevel.WCONFIG

KFJ_SECURITY_EXITS_LIB TEST1.TST.DEMO.MYEXITS
KFJ_USE_EMBEDS        Y
KFJ_EMBEDS_LIB        TEST1.TST.DEMO.MYEMBEDS

KFJ_SYSNAME           lpar
/*

```

## What to do next

After you have finished migrating your PARMGEN runtime environments into the Configuration Manager RTEDEF library, use the **GENERATE** action to generate runtime members using the configured parameters. See [GENERATE](#).

## PACKAGE

The **PACKAGE** action packages a runtime environment that can then be deployed to a remote system.

## Before you begin

Review the following information before you use the **PACKAGE** action:

- You can run the **PACKAGE** action only after you have successfully generated a runtime environment using the **GENERATE** action. For more information about the complete remote deployment process, see [“Remote deployment scenario” on page 341](#).
- The **PACKAGE** action uses the z/OS DFSMSdss **DUMP** command. You might need authority to run **ADDRSSU**, which is the program that is invoked when using DFSMSdss. Specifically, the **PACKAGE** action uses the **DUMP** command keywords **CONCURRENT** and **TOLERATE(ENQFAILURE)**. The use of these keywords with the **DUMP** command is controlled by the following RACF FACILITY class profiles:

Keyword	Profile Name
CONCURRENT with DUMP	STGADMIN.ADR.DUMP.CNCURRNT
TOLERATE(ENQF) with DUMP	STGADMIN.ADR.DUMP.TOLERATE.ENQF

Make sure that you have the proper RACF authority to use DFSMSdss and these keywords. If authorization is required, DFSMSdss issues error message [ADR707E](#).

For more information, see *z/OS DFSMSdss Storage Administration Guide: [Protecting DFSMSdss functions with RACF FACILITY class profiles](#)*.

- Before you run the **PACKAGE** action, perform the following important steps:
  - For an existing runtime environment, stop the started tasks for that runtime environment. Started tasks can lock runtime members, which can cause the **PACKAGE** action to fail.
  - For the SMS-managed data sets for the runtime environment to be packaged, make sure that any migrated data sets are recalled.

#### Related topics

- [“Remote deployment scenario” on page 341](#)
- [“Remote deployment example using local libraries” on page 343](#)
- [“KFJ\\_LOCAL\\_PLIB\\_HILEV” on page 302](#)
- [“KFJ\\_PACK\\_HILEV” on page 307](#)
- [“DEPLOY” on page 268](#)

#### About this task

The following list provides details about the **PACKAGE** action:

- The **PACKAGE** action uses the z/OS DFSMSdss **DUMP** command to create a series of data sets that contain the runtime environment. These dump files can be transferred across SYSPLEX boundaries, using methods like FTPS. The **PACKAGE** action is used in conjunction with the **DEPLOY** action.
- The **PACKAGE** action requires the use of the KCIALPHA program. KCIALPHA is an APF-authorized version of KCIOMEGA.
- You must specify high-level qualifier values for locating existing data sets and for allocating the output package data sets. The following parameters are used for specifying high-level qualifiers:

##### **RTE\_PLIB\_HILEV**

(Required) Specifies the high-level qualifiers for the runtime environment definition (RTEDEF) library, as follows:

- If local libraries are not used (that is, parameter **KFJ\_LOCAL\_PLIB\_HILEV** is not specified), **RTE\_PLIB\_HILEV** specifies the high-level qualifier of the RTEDEF library on the configuration system.
- If local libraries are used (that is, parameter **KFJ\_LOCAL\_PLIB\_HILEV** is also specified), **RTE\_PLIB\_HILEV** specifies the high-level qualifier of the RTEDEF library on the remote (target) system.

You must specify the **RTE\_PLIB\_HILEV** parameter and value for the **PACKAGE** action.

##### **KFJ\_LOCAL\_PLIB\_HILEV**

(Optional) Specifies the high-level qualifier for the local libraries. You must specify this parameter and value for the **PACKAGE** action if the parameter was used with the **CREATE** and **GENERATE** actions when building the runtime environment to be packaged. Otherwise, do not specify this parameter for the **PACKAGE** action. For more information on using local libraries for remote deployment, [“Remote deployment example using local libraries” on page 343](#).

**Note:** Parameter **KFJ\_LOCAL\_PLIB\_HILEV** is used when packaging the runtime environment; it is not used when deploying the package.

##### **KFJ\_PACK\_HILEV**

(Optional) Specifies a custom high-level qualifier for the output package data sets, which can be useful to distinguish the package data sets from the many runtime environment data sets in the local

libraries. If this parameter is not specified, the value for parameter **KFJ\_LOCAL\_PLIB\_HILEV** (if specified) or **RTE\_PLIB\_HILEV** is used as the high-level qualifier for the output package data sets.

- The **PACKAGE** action creates the following package data sets:
  - A set of dump data sets using the following naming convention:

```
package_hlq.rte_name.PACKxx.DMP
```

where:

- *package\_hlq* is one of the following values:
  - **KFJ\_PACK\_HILEV** parameter value, if specified
  - **KFJ\_LOCAL\_PLIB\_HILEV** parameter value, if **KFJ\_PACK\_HILEV** is not specified
  - **RTE\_PLIB\_HILEV** parameter value, if neither **KFJ\_PACK\_HILEV** or **KFJ\_LOCAL\_PLIB\_HILEV** is specified

To avoid exceeding the z/OS 44-character limit for data set names, the combined length of *package\_hlq* and *rte\_name* should not exceed 28 characters. For example, if *rte\_name* is 8 characters, then *package\_hlq* should not exceed 20 characters.

- *xx* is one of the following package codes:

**MN**

Main non-VSAM package. Contains data sets from the **RTE\_HILEV** libraries and some from the **RTE\_PLIB\_HILEV** libraries.

**MV**

Main VSAM package. Contains non-history related VSAM data sets from the **RTE\_VSAM\_HILEV** libraries.

**HN**

History non-VSAM package. Contains history-related data sets from the **RTE\_PDS\_HILEV** libraries.

**HV**

History VSAM package. Contains history-related data sets from the **RTE\_VSAM\_HILEV** libraries.

- A metadata file named *package\_hlq.rte\_name.PACKMD*. This flat file is not tersed or dumped and is required for the **DEPLOY** action if local libraries are used for the deployment.
- You can specify the following optional parameters in the **KCIVARS DD** statement when running the **PACKAGE** action:

**KFJ\_ADDRSSU\_ADMIN**

Specifies whether to use the **ADMINISTRATOR** keyword with z/OS **DFSMSdss** commands. Valid values are **Y** and **N**. The default is **N**. This option might be required depending on the security settings at your site.

**KFJ\_PACK\_TERSE**

Specifies if the dump data sets should also be tersed. Valid values are **Y** and **N**. The default is **N**. Specify **Y** if you want to transfer the packages using **FTP**. In this case, the dump files will be tersed and only the tersed copy will be retained.

**Note:** If you are using virtual tapes to transfer your data sets, tersing the dump files is not necessary.

If specified, the following parameters will be used for both the **DMP** and **DMP .TRS** data sets:

**KFJ\_PACK\_DATACLAS**

Specifies the data class for the package. This setting is needed for large package files or tersed files as it allows you to specify multiple volumes.

### KFJ\_PACK\_MGMTCLAS

Specifies the management class for the package.

### KFJ\_PACK\_STORCLAS

Specifies the storage class for the package.

### KFJ\_PACK\_UNIT

Specifies the unit for the package if non-SMS or virtual tape is used.

### KFJ\_PACK\_VOLUME

Specifies the volume for the package if non-SMS or virtual tape is used.

- You can use the **OPTION NOUSS** parameter to bypass the z/OS® UNIX® System Services workflow stage and not include any related files or directories in the produced output data sets.

To run the **PACKAGE** action, complete the following steps.

## Procedure

1. Update the KFJJMCM sample job in TKANSAM as follows (see example below):
  - a. Select a **PACKAGE** action.
  - b. Change the program name in the JCL **EXEC** statement from KCIOMEGA to KCIALPHA.
  - c. Specify values for the required parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
  - d. (Optional) Specify any additional parameters as needed.
2. For an existing runtime environment, stop the started tasks for that runtime environment.
3. Make sure that any migrated SMS-managed data sets to be packaged have been recalled.
4. Run the KFJJMCM job to perform the packaging process and generate the related package files. Job messages for the **PACKAGE** action are written to the KCIPRINT SYSOUT data set.

## Result

The packaging dump data sets and the metadata file are created.

## Example

The following JCL creates DUMP data sets for the runtime environment that is defined by members of the TSOUID.MONSUITE.RTEDEF library.

Figure 43: Example JCL to perform the PACKAGE action

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIALPHA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION          PACKAGE
RTE_NAME        RTE1
RTE_PLIB_HILEV  TSOUID.MONSUITE
/*
```

## What to do next

Transfer the files to the target system using a method like FTPS, and run the **DEPLOY** action.

## DEPLOY

The **DEPLOY** action deploys a packaged runtime environment to a remote system.

## Before you begin

Review the following information before you use the **DEPLOY** action:

- You can run the **DEPLOY** action only after you have successfully packaged a runtime environment using the **PACKAGE** action.
- The **DEPLOY** action uses z/OS DFSMSdss commands. You might need authority to run **ADDRSSU**, which is the program that is invoked when using DFSMSdss. If authorization is required, DFSMSdss issues error message **ADR707E**. For more information, see *z/OS DFSMSdss Storage Administration Guide: Protecting DFSMSdss functions with RACF FACILITY class profiles*.
- If you do not have any SMP/E target libraries on the system on which you want to run a **DEPLOY** action, you can use the utility **TKANSAM**(**KFJMAINT**) with the **BLDREMDS** action to build the necessary minimum data sets (**TKANSAM**, **TKANMOD**, and **TKANCUS** libraries) needed to run the action. Make sure you transfer the created data sets to your remote system where **DEPLOY** should run and where the necessary APF authorization of the **TKANMOD** library is made. These SMP/E target libraries are the minimum required to allow Configuration Manager to run for a full runtime environment. However, for a runtime environment that you are sharing with SMP/E, you will need to copy your entire set of SMP/E target libraries to the system where you run the **DEPLOY** action.

**Important:** When you use the **DEPLOY** action, the target runtime environment data sets will be updated. Verify that these data sets are not in use before you use the **DEPLOY** action.

**Important:** The **PACKAGE** action creates a metadata file named *package\_hlq.rte\_name.PACKMD*. The **DEPLOY** action requires the **PACKMD** metadata file if a data set is renamed, which can occur if the **KFJ\_LOCAL\_\*** parameters (in the **KCIVARS DD** and in the **PCK\$PARM** member) are used when creating the package. If the **PACKMD** file is not available, the **DEPLOY** action restores packages as is, retaining all high-level qualifiers and SMS properties, and you might experience unpredictable results in your deployment. It is recommended that you use the **PACKMD** metadata file when using the **DEPLOY** action.

#### Related topics

- [“Remote deployment scenario” on page 341](#)
- [“Remote deployment example using local libraries” on page 343](#)
- [“PACKAGE” on page 265](#)
- [“KFJ\\_LOCAL\\_PLIB\\_HILEV” on page 302](#)
- [“KFJ\\_PACK\\_HILEV” on page 307](#)

#### About this task

The following list provides details about the **DEPLOY** action:

- The **DEPLOY** action deploys a runtime environment by restoring [package data sets](#) generated by the **PACKAGE** action on a target system. The **DEPLOY** action uses DFSMSdss to restore the data sets.
- The **DEPLOY** action requires the use of the **KCIALPHA** program. **KCIALPHA** is an APF-authorized version of **KCIOMEGA**.
- You must specify high-level qualifier values that are used for locating existing data sets. The following parameters are used for specifying high-level qualifiers:

##### **RTE\_PLIB\_HILEV**

(Required) Specifies the high-level qualifiers for locating the runtime environment definition (**RTEDEF**) library. You must specify this parameter and value for the **DEPLOY** action.

##### **KFJ\_PACK\_HILEV**

(Optional) Specifies the high-level qualifier value for the package data sets. If this parameter is not specified, the value for parameter **RTE\_PLIB\_HILEV** is used.

**Important:** You must use parameter **KFJ\_PACK\_HILEV** with the **DEPLOY** action if you transferred your package data sets with a high-level qualifier that is different from **RTE\_PLIB\_HILEV**.

**Note:** It is recommended that you specify the **KFJ\_PACK\_HILEV** parameter when deploying your runtime environment.

**Note:** Parameter **KFJ\_LOCAL\_PLIB\_HILEV** is not supported on the **DEPLOY** action.

- You can optionally control when to run the **DEPLOY** workflow stage that deploys the parts related to z/OS® UNIX® System Services. By default, the **DEPLOY** action automatically deploys files and directories related to z/OS® UNIX®, if they are present in the packaged runtime environment data sets. However, there might be cases where you want to skip this step (for reasons such as authorization issues), and perform this step at a later time. You can use the **OPTION** parameter to specify the **NOUSS** or **USS** value to control this processing, as follows:

#### **NOUSS**

When **OPTION NOUSS** is specified, the **DEPLOY** action does not run the stage that deploys the parts related to z/OS® UNIX®.

With this option, only z/OS data sets are deployed; files and directories related to z/OS® UNIX® are bypassed.

#### **USS**

When **OPTION USS** is specified, the **DEPLOY** action runs only the stage that deploys the parts related to z/OS® UNIX®; no other processing is performed.

This option is useful when you want to refresh files and directories related to z/OS® UNIX® only.

- The **DEPLOY** action performs an unconditional restore for the main VSAM and non-VSAM packages (fully replaces the data sets) and a conditional restore for the history packages (does not replace existing data sets). Note the following behaviors:
  - If the history dump data sets (\*\*.PACKHN or \*\*.PACKHV) are not found or failed to restore, a return code of 4 will be generated.
  - If the main dump data sets (\*\*.PACKMN or \*\*.PACKMV) are not found or failed to restore, a return code of 8 will be generated.

**Note:** The **DEPLOY** action replaces some main package VSAM and non-VSAM files, but does not replace any history-related files. Therefore, it is normal for PACKHN and PACKHV deploy flows to end with RC=8. If you want to avoid this, for example if you roll out maintenance, do not transfer these packages to the target system. While normally a return code of 8 would cause Configuration Manager to stop, in this particular situation (history files), a return code of 8 is considered acceptable and will not prevent Configuration Manager from continuing to function.

- When restoring (and potentially unversing) the packaged runtime environment, the **DEPLOY** action reuses the following parameters that were used with the **PACKAGE** action:
  - **KFJ\_PACK\_HILEV**
  - **KFJ\_ADRDSSU\_ADMIN**
  - **KFJ\_PACK\_TERSE**
  - **KFJ\_PACK\_DATACLAS**
  - **KFJ\_PACK\_UNIT**
  - **KFJ\_PACK\_VOLUME**

See “PACKAGE” on page 265 for information about these parameters.

- If **KFJ\_PACK\_TERSE** is set to Y, the **DEPLOY** action first untermses the package. The untermesed DMP file high-level qualifier and SMS parameters are used as specified in the following parameters:
  - **RTE\_PLIB\_HILEV**
  - **RTE\_SMS\_MGMTCLAS**
  - **RTE\_SMS\_STORCLAS**
  - **RTE\_SMS\_UNIT**
  - **RTE\_SMS\_VOLUME**
- For large packages being untermesed, you should use **KFJ\_PACK\_DATACLAS** accordingly to allow multi-volume data set allocation for the extracted package files.
- If **KFJ\_PACK\_UNIT** or **KFJ\_PACK\_VOLUME** is specified, it applies to all of the packages being untermesed.
- If **RTE\_SMS\_VOLUME** is specified but **RTE\_SMS\_MGMTCLAS** is not, **RTE\_SMS\_MGMTCLAS** defaults to NULLMGMTCLAS. Similarly, **RTE\_SMS\_STORCLAS** defaults to NULLSTORCLAS.

To run the **DEPLOY** action, complete the following steps.

## Procedure

1. Locate the dump (.DMP) data sets and the metadata file (.PACKMD) that were created by the **PACKAGE** action.  
The naming convention of the package data sets is *package\_hlq.rte\_name.PACKMD*, where *package\_hlq* is the value of parameter **KFJ\_PACK\_HILEV** or **RTE\_PLIB\_HILEV**.

**Note:** It is possible that the high-level qualifier value was modified when transferring the package data sets to the remote system.

2. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **DEPLOY** action.
3. Change the program name in the JCL **EXEC** statement from KCIOMEGA to KCIALPHA.
4. Specify values for the required parameters **RTE\_NAME** and **RTE\_PLIB\_HILEV**.
5. (Optional) Specify any additional parameters as needed.

**Important:** You must use parameter **KFJ\_PACK\_HILEV** if you transferred your package data sets to the remote system with a high-level qualifier that is different from the **RTE\_PLIB\_HILEV** parameter value.

6. Run the KFJJMCM job to perform the deploy process and restore the related package files.  
Job messages for the **DEPLOY** action are written to the KCIPRINT SYSOUT data set and to the \$REPORT DD. If return code 4 or 8 is received, review the \$REPORT DD statement in the JCL job output to ensure that the restore process completed successfully. For more information, see “[DEPLOY action output](#)” on page 272.

The following examples restore (*deploy*) the data sets for a runtime environment that has been packaged by the **PACKAGE** action.

### Using default high-level qualifier with parameter **RTE\_PLIB\_HILEV**

In this example, the package data sets were named using the default high-level qualifier of the runtime definition library and were transferred to the remote system using the same file names.

The packaged data sets contain the runtime environment named RTE1 and the runtime environment definition library TSOUID.MONSUITE.RTEDEF.

The packaged data sets are named TSOUID.MONSUITE.RTE1.PACK\*.

The following **DEPLOY** action job, run on the remote system, deploys (restores) the package data sets on the target LPAR to data sets with the high-level qualifier TSOUID.MONSUITE.

*Figure 44: Example JCL to perform the DEPLOY action using default high-level qualifier*

```

//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIALPHA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUIE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION          DEPLOY
RTE_NAME        RTE1
RTE_PLIB_HILEV  TSOUID.MONSUIE
/*

```

### Using custom high-level qualifier with parameter KFJ\_PACK\_HILEV

You must use parameter **KFJ\_PACK\_HILEV** with the **DEPLOY** action if you transferred your package data sets to the remote system with a high-level qualifier that is different from the **RTE\_PLIB\_HILEV** parameter value.

In this example, the package data sets contain the runtime environment named **RTE1** and the runtime environment definition library **TSOUID.MONSUIE.RTEDEF**. However, the files were transferred to the remote system using the high-level qualifier **TESTSYS**.

As a result, the package data sets on the remote system are named **TESTSYS.MONSUIE.RTE1.PACK\***, requiring the use of parameter **KFJ\_PACK\_HILEV**.

*Figure 45: Example JCL to perform the DEPLOY action using custom high-level qualifier*

```

//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIALPHA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUIE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION          DEPLOY
RTE_NAME        RTE1
RTE_PLIB_HILEV  TSOUID.MONSUIE
KFJ_PACK_HILEV  TESTSYS.MONSUIE
/*

```

### DEPLOY action output

The **DEPLOY** action produces job output that provides information about the deployment of the data sets as a result of the job.

When running in default mode, the **DEPLOY** action writes summarized output and the job return code to the **KCIPRINT** SYSOUT data set and produces a more detailed report in the **\$REPORT** DD. The following sections provide information about these output data sets and their contents, which includes [data set deployment states](#) and [DEPLOY action return codes](#).

#### KCIPRINT

**KCIPRINT** contains a count of the data sets that the **DEPLOY** action processes, summarized by [deployment state](#) (*deployed, skipped, failed*), for each package data set. Looking at **KCIPRINT**, you can see if any data sets failed, but you will not see the exact data set names. This content is a condensed preview of what is included in the **\$REPORT** output. **KCIPRINT** also contains the [return code](#) for the job.

The following figures show example **KCIPRINT** output for the **DEPLOY** action.

The example in “[Figure: DEPLOY action output in KCIPRINT — data set deployment summary](#)” on page 272 shows sample summary counts of the data sets processed by the **DEPLOY** action for each package (dump) data set; the actual number of data sets reported will be unique to the job:

*Figure 46: DEPLOY action output in KCIPRINT — data set deployment summary*

```

IMB Z Monitoring Configuration manager is about to perform DEPLOY action

Processing: PACKMN
- Deployed: .. 30
- Skipped: ... 21
- Failed: .... 0

Processing: PACKHN
- Deployed: .. 0
- Skipped: ... 23

```

```

- Failed: .... 0

Processing: PACKMV
- Deployed: .. 38
- Skipped: ... 41
- Failed: .... 0

Processing: PACKHV
- Deployed: .. 0
- Skipped: ... 14
- Failed: .... 0

```

For more detailed information see \$REPORT DD statement

For more information about the deployment states, see [“Data set deployment states” on page 274](#).

The example in [“Figure: DEPLOY action output in KCIPRINT – return code” on page 273](#) shows a possible return code for the **DEPLOY** action; the actual return code will be unique to the job:

Figure 47: DEPLOY action output in KCIPRINT – return code

```
KFU00004I KCIALPHA is ending; RC=4 SYSPLEX=sysplex LPAR=lpar DATE=...
```

For more information about return codes for the **DEPLOY** action, see [“DEPLOY action return codes” on page 274](#).

For more information about KCIPRINT, see [“Navigating Configuration Manager action output” on page 365](#) and [“Action job output” on page 275](#).

#### \$REPORT

\$REPORT provides details about which data sets were deployed, which were intentionally skipped, and which failed. In addition, the report includes the deployment status of the z/OS UNIX System Services (z/OS UNIX) data sets as a result of the job.

**Note:** If you encounter issues with the **DEPLOY** action and the normal run does not explain what failed, use the **DEPLOY** action with **OPTION DEBUG** to print the complete output.

The following figures shows example \$REPORT output.

The \$REPORT content lists the individual data sets that were skipped, deployed, and failed (if any) for each package (dump) data set. The report sample in [“Figure: DEPLOY action output in \\$REPORT – data set deployment state” on page 273](#) shows a portion of the report for the PACKMN package data set only; the actual number of data sets reported will be unique to the job:

```

Processing data set: PACKMN
Will NOT REPLACE existing data sets
-----
Total deployed data sets: ..... 0
Total skipped data sets: ..... 21
Total failed to deploy data sets: .. 0

Details:
|- Skipped data sets:
||- rte_plib_hilev.rte_name.ims_id.RKOIPCSV
||- rte_plib_hilev.rte_name.ims_id.RKOIPFSV
||- rte_plib_hilev.rte_name.ims_id.RKOIPCSV
...
*****

Processing data set: PACKMN
Will REPLACE existing data sets
-----
Total deployed data sets: ..... 30
Total skipped data sets: ..... 0
Total failed to deploy data sets: .. 0

Details:
|- Deployed data sets:
||- rte_plib_hilev.rte_name.EMBEDS
||- rte_plib_hilev.rte_name.PGMSCN
||- rte_plib_hilev.rte_name.PGMSDS
...

```

Figure 48: DEPLOY action output in \$REPORT – data set deployment state

For more information about the deployment states, see “Data set deployment states” on page 274.

The report sample in “Figure: DEPLOY action output in \$REPORT – z/OS UNIX data sets” on page 274 shows a portion of the report that lists the z/OS UNIX data sets that were deployed:

```
*****  
z/OS UNIX System Services:  
  
Extracting files to: /proj/tdci2/MS/MSDEPL/PGMS  
-----  
KS3  
KS3/rdm  
KS3/rdm/jobs  
KS3/rdm/jobs/RDMUNPX  
...
```

Figure 49: DEPLOY action output in \$REPORT – z/OS UNIX data sets

### Data set deployment states

The **DEPLOY** action job output categorizes the processed data sets as follows:

#### Deployed

The **DEPLOY** action has successfully restored these data sets to the target system.

#### Skipped

The **DEPLOY** action skipped these data sets because they contain user data, such as configuration information and history-related files. These data sets should not be overwritten. It is normal to see numerous data sets skipped by the **DEPLOY** action.

#### Failed

The **DEPLOY** action did not restore these data sets to the target system. You should investigate any data sets that failed to deploy.

#### DEPLOY action return codes

The **DEPLOY** action uses the DFSMSdss ADRDSSU program to restore the data sets. It performs an unconditional restore for the main VSAM and non-VSAM packages (fully replaces the data sets) and a conditional restore for the history packages (does not replace existing data sets). Note the following behaviors:

- If history dump data sets (\*\*.PACKHN or \*\*.PACKHV) are not found or failed to restore, a return code of 4 will be generated.
- If the main dump data sets (\*\*.PACKMN or \*\*.PACKMV) are not found or failed to restore, a return code of 8 will be generated.

The **DEPLOY** action replaces all main package VSAM and non-VSAM files, but does not replace any history-related files. Therefore, it is normal for PACKHN and PACKHV deploy flows to end with RC=8. If you want to avoid this, for example if you roll out maintenance, do not transfer these packages to the target system. While normally a return code of 8 would cause Configuration Manager to stop, in this particular situation (history files), a return code of 8 is considered acceptable and will not prevent Configuration Manager from continuing to function.

## KCIOMEGA workflows

The KCIOMEGA program that runs IBM Z® Monitoring Configuration Manager is a general-purpose job template engine. KCIOMEGA performs batch processing based on the job template that you specify. The processing that KCIOMEGA performs is known as a *workflow*.

**Note:** KCIALPHA is an APF-authorized version of KCIOMEGA. APF authorization is required for some actions.

In KCIOMEGA terms, Monitoring Configuration Manager is a workflow.

The KCIOMEGA program has two input data sets:

#### KCIFLOW

Contains a job template written in the KCIOMEGA *skeleton language*. The language is similar to a subset of JCL with additional syntax introduced by KCIOMEGA.  
This job template is also known as a *workflow skeleton* or simply *skeleton*.

KCIOMEGA dynamically interprets the statements in the skeleton and performs the corresponding processing (the workflow).

Skeletons can invoke other skeletons, resulting in composite workflows that run sub-workflows.

The KCIOMEGA skeleton language is unpublished; not intended for users. However, it's human-readable plain text. If you're familiar with JCL syntax, the additional KCIOMEGA syntax is relatively straightforward to understand.

## KCIVARS

Contains name-value pairs that set workflow variables.  
KCIOMEGA replaces variable names in skeletons with the values from this data set.

Skeletons can refer to variable names in various contexts, such as data set names and “if ... then” conditions. Variables can determine the actions that workflows perform and the data sets that workflows use.

In the context of Monitoring Configuration Manager, workflow variables specify which action to perform and the location of the runtime environment definition on which you want to perform that action.

## Action job output

Review the types of output data sets that are produced by the **KCIOMEGA** program.

Configuration Manager writes job output for the **KCIOMEGA** actions to a number of output data sets. Output from invoked utilities is also generated, with each utility writing to its own output data set.

**Note:** **KCIALPHA** is an APF-authorized version of the **KCIOMEGA** program. The information in this topic also applies when using **KCIALPHA**.

The following table lists the output data sets that Configuration Manager generates and retains.

<i>Table 33: Standard sysout data sets</i>	
<b>Output data set</b>	<b>Description</b>
<u>KCIPRINT</u>	<b>KCIOMEGA</b> program messages and messages about Configuration Manager processing
<u>KCITRACE</u>	<b>KCIOMEGA</b> workflow trace output, used primarily by IBM Software Support for troubleshooting
KCIVARSO	KCIVARS input that was used in the JCL
DSNPROUT	Contents of the RTEDEF library used in the configuration. When the <b>DEBUG</b> action option is used, this data set contains the complete list of members in the RTEDEF library.  <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"><b>Note:</b> The <b>DEBUG</b> action option should only be used under the guidance of IBM Software Support.</div>
<u>\$VALRPT</u>	Parameter validation report
<u>MIGRPT</u>	Output for the <b>MIGRATE</b> action
<u>EXCLRPT</u>	List of members excluded (not replaced) in the runtime libraries during the <b>GENERATE</b> action
<u>REPORT</u>	Products installed report. This report appears automatically in the job output for the <b>CREATE</b> , <b>MIGRATE</b> , and <b>GENERATE</b> actions and can also be generated using the KFJMAINT maintenance workflow by specifying <b>ACTION REPORT</b> .

Output data set	Description
\$REPORT	Output for the <b>DEPLOY</b> action
JESMSG LG, JESJCL and JESYSMSG	Standard JES-produced output

In addition to the output data sets listed in “Standard sysout data sets” on page 275, Configuration Manager also generates other output that it does not retain and deletes from the spool automatically.

If a Configuration Manager job fails, the DD statement that contains the error message is retained and printed.

#### Notes:

- JES3 does not allow deleting DD output. If your site uses JES3, you might see additional output, which can be considerable.
- With APAR OA65222, the **DEBUG** action option (**OPTION DEBUG**), is introduced. This option generates additional output that is otherwise suppressed by default. This option should only be used under the guidance of IBM Software Support. Prior to this enhancement, all generated output was retained and printed to the spool, which could result in hundreds of output data sets.

To review the Configuration Manager job output, use a tool such as SDSF to view the JES output data sets.

### KCIPRINT sysout data set

The KCIPRINT output data set contains messages from the KCIOMEGA program interspersed with messages about Configuration Manager processing.

Here is an example KCIPRINT for a successful job:

Figure 50: Example KCIPRINT output data set for a successful Configuration Manager job

```
KFU00001I KCIOMEGA is starting; SYSPLEX=sysplex LPAR=lpar DATE=...
KFU00002I INVOKE processing is about to commence; MEMBER=KFJOMEGA
...
Workflow has completed successfully
KFU00004I KCIOMEGA is ending; RC=rc SYSPLEX=sysplex LPAR=lpar DATE=...
```

### Parameter values used

The KCIPRINT sysout data set from a **GENERATE** action contains an ordered list of the RTEDEF library members that the action uses. For example:

```
01. Using parameters in rte_plib_hilev.RTEDEF(rte_name)
02. Using parameters in rte_plib_hilev.RTEDEF(KDS$PARM)
03. Using parameters in rte_plib_hilev.RTEDEF(GBL$PARM)
```

The corresponding KCITRACE sysout data set contains an alphabetical list of parameters and symbols (such as workflow variables) with their values. The list is preceded by the following heading:

```
>Parameter and symbol values
```

**Note to users with PARMGEN experience:** The **GENERATE** action of Configuration Manager creates an *rte\_plib\_hilev.rte\_name.WCONFIG(rte\_name)* member that is similar to the member created by PARMGEN, with one key difference: the member created by Configuration Manager contains default parameter values; it does not reflect the values in your RTEDEF library members. To see the parameter values used by Configuration Manager, refer to the >Parameter and symbol values heading in the KCITRACE sysout data set. As such, the WCONFIG data sets as a whole should be considered as a *black box*.

## KCITRACE sysout data set

The KCITRACE output data set contains the KCIPRINT contents, and, in addition, also includes the source of each workflow skeleton and additional messages.

KCITRACE records that start with two consecutive plus signs (++) show the previous record after variable substitution. For example:

```
//RTEDEF DD DSN=%RTEDEF_DSN%,PASS=YES  
++RTEDEF DD DSN=MYID.MONITORS.RTEDEF,PASS=YES
```

## Renamed SYSPRINT sysout data sets

The KCIOMEGA program runs a workflow, such as the **GENERATE** action of Configuration Manager, that can invoke many programs, resulting in long job output listings. All of these programs run in the same job step as KCIOMEGA.

Many programs write to the ddname SYSPRINT. To avoid a job output listing with multiple SYSPRINT ddnames for the same step name, KCIOMEGA renames SYSPRINT sysout data sets to match the corresponding step name in the workflow skeleton shown in KCITRACE. This makes it easier to find the SYSPRINT for each step in the skeleton.

## Parameter validation report (\$VALRPT)

If the set of parameters that you specified in the RTEDEF library is invalid (for example, a required parameter is missing or a defined value is incorrect), then the sysout data sets include the parameter validation report (\$VALRPT). If this report is generated, then review the report, correct the parameters, and resubmit the job.

**If you are familiar with PARMGEN:** The Configuration Manager parameter validation report contains the same information as the parameter validation report generated by PARMGEN, with the difference that you do not have to manually navigate to the data set and open it.

## Products installed report (REPORT)

The *products installed report* provides information about the installation status and Configuration Manager support of products at your site. The report identifies the following products:

- Products that are installed and supported by Configuration Manager
- Products that are installed but not supported by Configuration Manager
- Products that are not installed but supported by Configuration Manager

The report appears automatically in the job output for the **CREATE**, **MIGRATE**, and **GENERATE** actions. You can also generate the report using the KFJMAINT maintenance workflow by specifying **ACTION REPORT**. (No other option or parameter is required to run the KFJMAINT job with the **REPORT** action.)

**Tip:** By producing the report using KFJMAINT, you can verify that your product is supported by Configuration Manager before beginning the configuration process. For a complete list of supported products, see [“Products supported by Configuration Manager” on page 214](#).

The report is printed to the job output identified by the **REPORT DD** statement.

The report lists the product code, the product version, and the product name. If the version is not supported in Configuration Manager, then an asterisk appears after the version and the comment (not supported) appears after the name. If the product is not installed, then N/A appears as the version and the comment (not installed) appears after the name.

The following figure shows an example of the products installed report:

Products installed in <data_set_name>		
Code	Version	Product name
KM5	N/A	IBM Z OMEGAMON AI for z/OS (not installed)
KN3	5.1.0*	IBM OMEGAMON for Networks on z/OS (not supported)
KWO	5.6.0	IBM OMEGAMON Dashboard Edition on z/OS
KS3	6.1.0	IBM Z OMEGAMON AI for Storage
KC5	6.1.0	IBM Z OMEGAMON AI for CICS
KGW	6.1.0	IBM Z OMEGAMON AI for CICS Transaction Gateway
KI5	5.5.0	IBM OMEGAMON for IMS on z/OS
KJJ	6.1.0	IBM Z OMEGAMON AI for JVM
KD5	6.1.0	IBM Z OMEGAMON AI for Db2
KQI	7.5.0	IBM OMEGAMON for Messaging Integration Bus
KMQ	7.5.0	IBM OMEGAMON for Messaging on z/OS
KYN	7.1.1	ITCAM for Application Diagnostics Agent
KDS	6.3.0	Tivoli Enterprise Monitoring Server
KOB	7.5.0	OMEGAMON Enhanced 3270 User Interface
KNA	4.4.0*	IBM Z NetView Enterprise Management Agent (not supported)
KRN	2.6.0	IBM Tivoli Advanced Catalog Management for z/OS
KRH	2.6.0	IBM Tivoli Advanced Reporting and Management for KFSMShsm (not supported)
KRG	2.6.0	IBM Tivoli Advanced Audit for DFSMShsm
KRJ	3.3.0	IBM Tivoli Advanced Allocation Management for z/OS
KRK	3.3.0	IBM Tivoli Automated Tape Allocation Manager for z/OS
KRV	2.4.0	IBM Tivoli Advanced Backup and Recovery for z/OS
KAY	1.1.0	IBM Z OMEGAMON Data Provider

Figure 51: Products installed report (REPORT)

## Parameters

In general, IBM Z® Monitoring Configuration Manager and PARMGEN use the same parameters with the same default values. In a few cases, Monitoring Configuration Manager introduces a new parameter or sets a different default value for an existing parameter.

For parameters not described here, see [Where to find information](#).

### Parameters that determine what products are configured

You can control the products that are configured in your runtime environment using the **CONFIGURE\_\*** parameters.

Each product that is configured in the runtime environment has a corresponding parameter with the prefix **CONFIGURE**. The **CONFIGURE\_\*** parameters are defined in the *rte\_name* member in the runtime environment definition library (RTEDEF) and have the permissible values of Y and N.

For example, for a runtime environment that contains a monitoring server, an OMEGAMON for z/OS monitoring agent, the OMEGAMON enhanced 3270 user interface, and OMEGAMON Data Provider, each of the corresponding parameters are set to Y; the parameters for the other products are set to N:

CONFIGURE_TEMS_KDS	Y * TEMS
CONFIGURE_E3270UI_KOB	Y * Enhanced 3270
CONFIGURE_CICS_KC5	N * CICS TS
CONFIGURE_CICS_TG_KGW	N * CICS TG
CONFIGURE_DB2_AGENT_KD5	N * Db2
CONFIGURE_IMS_KI5	N * IMS
CONFIGURE_JVM_KJJ	N * JVM
CONFIGURE_ZOS_KM5	Y * z/OS
CONFIGURE_MESSAGING_KMQ	N * MQ
CONFIGURE_MESSAGING_KQI	N * Integration Bus
CONFIGURE_NETVIEW_KNA	N * Netview
CONFIGURE_MFN_KN3	N * Network
CONFIGURE_STORAGE_KS3	N * Storage
CONFIGURE_OMEGAVIEW_KWO	N * Integration Monitor
CONFIGURE_ITCAMAD_KYN	N * ITCAM for Applications
CONFIGURE_ACM_KRN	N * Advanced Catalog Mgmt
CONFIGURE_AAD_KRH	N * Advanced Rpt and Mgmt
CONFIGURE_AAD_KRG	N * Advanced Audit
CONFIGURE_AAM_KRJ	N * Advanced Alloc Mgmt
CONFIGURE_ATAM_KRK	N * Automated Tape Alloc

CONFIGURE\_ABR\_KRV  
 CONFIGURE\_ODP\_KAY

N \* Advanced Backup and Rec  
 Y \* Data Provider

**Tip:** Explicitly setting the **CONFIGURE\_\*** parameters to N for the products that are not used can result in less CPU and time used as the respective product-specific workflows are bypassed. Otherwise, unspecified configuration flags default to N as early as possible in the workflow.

The following table lists the products and corresponding **CONFIGURE** parameters.

*Table 34: CONFIGURE\_\* parameters*

Product	Parameter
Tivoli Enterprise Monitoring Server	CONFIGURE_TEMS_KDS
OMEGAMON® Enhanced 3270 User Interface	CONFIGURE_E3270UI_KOB
IBM Z OMEGAMON AI for CICS TS	CONFIGURE_CICS_KC5
IBM Z OMEGAMON AI for CICS TG	CONFIGURE_CICS_TG_KGW
IBM Z® OMEGAMON® AI for Db2	CONFIGURE_DB2_AGENT_KD5
IBM OMEGAMON® for IMS on z/OS	CONFIGURE_IMS_KI5
IBM Z® OMEGAMON® AI for JVM	CONFIGURE_JVM_KJJ
IBM Z® OMEGAMON® AI for z/OS®	CONFIGURE_ZOS_KM5
IBM OMEGAMON® for Messaging on z/OS - MQ	CONFIGURE_MESSAGING_KMQ
IBM OMEGAMON® for Messaging on z/OS - Integration Bus	CONFIGURE_MESSAGING_KQI
IBM Z® NetView Enterprise Management Agent	CONFIGURE_NETVIEW_KNA
IBM Z® OMEGAMON® AI for Networks	CONFIGURE_MFN_KN3
IBM Z OMEGAMON® AI for Storage	CONFIGURE_STORAGE_KS3
IBM Z® OMEGAMON® Integration Monitor	CONFIGURE_OMEGAVIEW_KWO
IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics Agent	CONFIGURE_ITCAMAD_KYN
IBM Tivoli Advanced Catalog Management for z/OS	CONFIGURE_ACM_KRN
IBM Tivoli Advanced Reporting and Management for DFSMSHsm	CONFIGURE_ARD_KRH
IBM Tivoli Advanced Audit for DFSMSHsm	CONFIGURE_AAD_KRG
IBM Tivoli Advanced Allocation Management for z/OS	CONFIGURE_AAM_KRJ
IBM Tivoli Automated Tape Allocation Manager for z/OS	CONFIGURE_ATAM_KRK
IBM Tivoli Advanced Backup and Recovery for z/OS	CONFIGURE_ABR_KRV
IBM Z® OMEGAMON Data Provider	CONFIGURE_ODP_KAY

**Related topic:**

[“How to: Add a new agent or product to a runtime environment” on page 356](#)

[“How to: Add OMEGAMON Data Provider to a runtime environment” on page 357](#)

## Parameters in the initial runtime environment configuration profile

The **CREATE** action creates an initial set of parameters that define a basic runtime environment. You can edit and add to this initial set to meet your specific requirements.

These parameters are also described in the OMEGAMON® shared documentation or in the documentation for each product. The descriptions provided here include additional information to help you get started.

## GBL\_DSN\_CICS\_CTG\_DLL

The CICS® Transaction Gateway (TG) dynamic link library.

### Description

The CICS® Transaction Gateway (TG) dynamic link library.

### Default value

SYS1.SCTGDLL

### Permissible values

An MVS™ data set name.

## GBL\_DSN\_CSF\_SCSFMODE

This parameter contains the Integrated Cryptographic Service Facility (ICSF) load library that contains the CSNB\* modules used for password encryption.

### Description

This parameter is valid in both Configuration Manager and PARMGEN if ICSF is installed and configured on the z/OS® system.

#### In Configuration Manager:

This parameter is explicitly added in the GBL\$PARM member that is generated after the **CREATE** or **MIGRATE** action, as it is relevant for several security-related aspects of the product configuration (such as password encryption).

If your installation does not use the ICSF, you can remove or comment out this parameter in your RTEDEF (GBL\$PARM) or RTEDEF (GBL\$*lpar*).

#### In PARMGEN:

By default, this parameter is commented out in the WCONFIG (\$GBL\$USR) member.

### Required or optional

This parameter is required if any of the following conditions are in effect:

- Password encryption is enabled for any components.
- A SOAP server is enabled on a remote Tivoli® Enterprise Monitoring Server.
- Granular control of command requests is enabled (compatibility mode is *disabled*): the **KDS\_KMS\_SECURITY\_COMPATMD** parameter is set to N.
- zAware feature is enabled for OMEGAMON® on z/OS®.

### Default value

CSF.SCSFMODE

### Permissible values

An MVS™ data set name, maximum length 44

### Related parameters

- RTE\_SECURITY\_KAES256\_KEY
- KDS\_KMS\_SECURITY\_COMPATMD

## GBL\_DSN\_DB2\_DSNEEXIT

The Db2® exit library.

### Description

The Db2® exit library.

The OMEGAMON® collector uses the Db2® exit load modules in this library.

Example value:

```
DSN.VC10.SDSNEXIT
```

#### Permissible values

An MVS™ data set name.

### GBL\_DSN\_DB2\_LOADLIB\_Vn

The load library for the version of Db2® that your site is running.

#### Description

The load library for the version of Db2® that your site is running.

In the parameter name, **n** is the Db2® version number. For example, **GBL\_DSN\_DB2\_LOADLIB\_V12**.

Specify a **GBL\_DSN\_DB2\_LOADLIB\_Vn** parameter for each Db2® version that you want to monitor.

This parameter is required if the runtime environment contains the Db2® monitoring agent.

Example value:

```
DSN.VC10.SDSNLOAD
```

#### Permissible values

An MVS™ data set name.

### GBL\_DSN\_DB2\_RUNLIB\_Vn

The run library for the version of Db2® that your site is running.

#### Description

The run library for the version of Db2® that your site is running.

In the parameter name, **n** is the Db2® version number. For example, **GBL\_DSN\_DB2\_RUNLIB\_V12**.

Specify a **GBL\_DSN\_DB2\_RUNLIB\_Vn** parameter for each Db2® version that you want to monitor. The library should contain the modules DSNTIAD and DSNTIAUL to be used to run in batch.

IBM Z® Monitoring Configuration Manager uses the library to generate **GRANT** and **BIND** jobs that prepare the Db2® subsystems for monitoring.

This parameter is required if the runtime environment contains the Db2® monitoring agent.

Example value:

```
DSN.VC10.RUNLIB.LOAD
```

#### Permissible values

An MVS™ data set name.

### GBL\_DSN\_IMS\_RESLIB

The IMS SDFSRESL library.

#### Description

The IMS SDFSRESL library contains the CQSREG00 action module required to enable the Common Queue Server (CQS). The CQS and shared queues allow users to take advantage of the Parallel Sysplex® environment.

**Note:** The DISCOVER action of IBM Z® Monitoring Configuration Manager discovers the value of the KI2\_I1nn\_CLASSIC\_IMS\_RESLIB parameter, which also specifies an IMS SDFSRESL library.

Depending on how IMS is configured at your site, the same value might be appropriate for GBL\_DSN\_IMS\_RESLIB.

**Required or optional**

Required if the runtime environment configures the IMS monitoring agent.

**Default value**

IMS.SDFSRESL

**GBL\_DSN\_IMS\_SCEXLINK**

The IMS Connect product load library.

**Description**

The IMS Connect product load library.

The IMS monitoring agent uses the IMS Connect Extensions Publisher API. The agent requires the IMS Connect Extensions product and functional support load libraries to connect to and collect performance and statistics data from the IMS Connect address space.

This parameter is required if the runtime environment configures the IMS monitoring agent.

**Default value**

IMS.SCEXLINK

**Permissible values**

An MVS™ data set name.

**GBL\_DSN\_IMS\_SFUNLINK**

The IMS Connect functional support load library.

**Description**

The IMS Connect functional support load library.

The IMS monitoring agent uses the IMS Connect Extensions Publisher API. The agent requires the IMS Connect Extensions product and functional support load libraries to connect to and collect performance and statistics data from the IMS Connect address space.

This parameter is required if the runtime environment configures the IMS monitoring agent.

**Default value**

IMS.SFUNLINK

**Permissible values**

An MVS™ data set name.

**GBL\_DSN\_WMQ\_SCSQANLE**

The IBM® MQ language library.

**Description**

The IBM® MQ language library.

This parameter is required if the runtime environment configures the MQ monitoring agent.

**Default value**

CSQ.V9R0M0.SCSQANLE

**Permissible values**

An MVS™ data set name.

## GBL\_DSN\_WMQ\_SCSQAUTH

The IBM® MQ authorized load library.

### Description

The IBM® MQ authorized load library.  
This parameter is required if the runtime environment configures the MQ monitoring agent.

### Default value

CSQ.V9R0M0.SCSQAUTH

### Permissible values

An MVS™ data set name.

## GBL\_DSN\_NETVIEW\_CNMLINK

Identifies the IBM Z® NetView CNMLINK library

### Description

This parameter identifies the IBM Z® NetView CNMLINK library .  
It is required only if using an IBM Z® NetView Agent.

### Default value

NETVIEW.VNRNMN.CNMLINK

### Permissible values

An MVS™ data set name.

## GBL\_HFS\_JAVA\_DIRn

The z/OS® UNIX® System Services path of the Java™ home directory.

### Description

The z/OS® UNIX® System Services path of the Java™ home directory.

The path consists of the concatenated values of the **GBL\_HFS\_JAVA\_DIR1** and **GBL\_HFS\_JAVA\_DIR2** parameters.

Typically, you only specify **GBL\_HFS\_JAVA\_DIR1**. **GBL\_HFS\_JAVA\_DIR2** is provided as a convenience to specify the remainder of a long directory path.

This parameter is required if you are enabling the self-describing agent (SDA) functionality in the z/OS® monitoring server (TEMS) and agents.

For the runtime members, see the **TEMS\_JAVA\_BINPATH** parameter in the KSDSPROF member of the RKANDATV library.

As an example, if **GBL\_HFS\_JAVA\_DIR1** is set to `/my/own/copy` and **GBL\_HFS\_JAVA\_DIR2** is set to `/of/java`, then the resulting directory path is a concatenation of these two values: `/my/own/copy/of/java`.

### Default value

For **GBL\_HFS\_JAVA\_DIR1**: `/usr/lpp/java/IBM/J8.0_64`

For **GBL\_HFS\_JAVA\_DIR2**: *none* (empty string)

### Permissible values

A z/OS® UNIX® directory path. Must begin with a forward slash (/).

Do not specify a trailing `/bin` directory in the value. IBM Z® Monitoring Configuration Manager appends `/bin` to the value that you specify.

## GBL\_TARGET\_HILEV

The high-level qualifiers of the target libraries, such as TKANDATV and TKANMOD.

## Description

The high-level qualifiers of the target libraries, such as TKANDATV and TKANMOD.

The **CREATE** action of IBM Z® Monitoring Configuration Manager sets the **GBL\_TARGET\_HILEV** parameter to the high-level qualifiers of the data set name specified by the KCIFLOW DD statement in the job step that performs the **CREATE** action.

This parameter is required.

As an example, if the KCIFLOW DD statement of the job step that performs the **CREATE** action specifies the data set name MONSUIITE .TKANCUS, then the **CREATE** action sets the value of **GBL\_TARGET\_HILEV** to MONSUIITE.

## Permissible values

MVS™ data set high-level qualifiers.

## GBL\_USS\_TKANJAR\_PATH

The path of the z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKANJAR.

Depending on your local site practices, this path might refer to a copy, rather than the original SMP/E-managed directory.

## Required or optional

Required if the runtime environment configures either of the following monitoring agents:

- CICS® Transaction Gateway (TG). The corresponding configuration parameter is **CONFIGURE\_CICS\_TG\_KGW**.
- Java™ Virtual Machine (JVM). The corresponding configuration parameter is **CONFIGURE\_JVM\_KJJ**.

## Default value

/usr/lpp/kan/bin/IBM

## Permissible values

z/OS® UNIX® directory path. Must begin with a forward slash (/).

## Related parameters

GBL\_DSN\_SYS1\_SBPXEXEC

RTE\_USS\_RTEDIR

RTE\_USS\_MKDIR\_MODE

## GBL\_USS\_TKAYHFS\_PATH

This parameter specifies the SMP/E TKAYHFS ddname installation directory.

## Description

This parameter specifies the path of the z/OS UNIX directory that the SMP/E installation jobs for IBM Z OMEGAMON Data Provider define using the ddname TKAYHFS.

Depending on your local site practices, this path might refer to a copy of the SMP/E-managed directory rather than the original.

This directory is read-only for Monitoring Configuration Manager; Monitoring Configuration Manager does not write to this directory.

## Default value

/usr/lpp/omdp

## Permissible values

Character string, maximum length 44

## RTE\_COMM\_PROTOCOLn

This parameter sets the communication protocol choices of all components in the runtime environment.

**Note:** This parameter is valid in Configuration Manager only. It is not valid in PARMGEN.

### Description

The **RTE\_COMM\_PROTOCOLn** (n: 1 - 7) parameters set the value of the **KDS\_TEMS\_COMM\_PROTOCOLn** and **Kpp\_AGT\_COMM\_PROTOCOLn** parameters. This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

### Required or optional

Optional

### Default value

None

### Permissible values

Value	Protocol description	Corresponding protocol-specific parameters
IPPIPE	Non-secure TCP over IPv4	RTE_TCP_HOST RTE_TCP_PORT_NUM
IP	Non-secure UDP over IPv4	RTE_TCP_HOST RTE_TCP_UDP_PORT_NUM
IP6PIPE	Non-secure TCP over IPv6	RTE_TCP_HOST RTE_TCP_PIPE6_PORT_NUM
IP6	Non-secure UDP over IPv6	RTE_TCP_HOST RTE_TCP_UDP6_PORT_NUM
IPSPIPE	Secure (SSL/TLS) TCP over IPv4	RTE_TCP_HOST RTE_TCP_PIPES_PORT_NUM
IPS6PIPE	Secure (SSL/TLS) TCP over IPv6	RTE_TCP_HOST RTE_TCP_PIPE6S_PORT_NUM
SNA	NCS RPC: Systems Network Architecture implementation of the Network Computing System Remote Procedure Call API	Kpp_TEMS_VTAM_APPL_LL_B_BROKER Kpp_TEMS_VTAM_LU62_DLOGMOD Kpp_TEMS_VTAM_LU62_MODETAB RTE_VTAM_NETID

Default values of **KDS\_TEMS\_COMM\_PROTOCOLn** and **Kpp\_AGT\_COMM\_PROTOCOLn**:

n	Value
1	IPPIPE
2	SNA

### Example

Parameter	Value	Description
<b>RTE_COMM_PROTOCOL1</b>	IPSPIPE	First choice: secure TCP over IPv4
<b>RTE_COMM_PROTOCOL2</b>	IPPIPE	Second choice: non-secure TCP over IPv4

## Related parameters

- KDS\_TEMS\_COMM\_PROTOCOLn
- Kpp\_AGT\_COMM\_PROTOCOLn

## RTE\_NAME

The runtime environment name.

### Description

The runtime environment name.

IBM Z® Monitoring Configuration Manager uses this name for various purposes, including:

- MVS™ member names
- MVS™ data set name qualifiers
- z/OS® UNIX® System Services directory name, all uppercase

Example value: RTE1

### Permissible values

1 - 8 characters.

## RTE\_PLIB\_HILEV

This parameter specifies the high-level qualifiers of the runtime environment definition (RTEDEF) library.

### Description

This parameter specifies the high-level qualifiers of the runtime environment definition (RTEDEF) library.

The **RTE\_PLIB\_HILEV** parameter sets the default values of several parameters that specify runtime member locations:

**RTE\_HILEV**  
**RTE\_VSAM\_HILEV**  
**GBL\_DSN\_SYS1\_PROCLIB**  
**GBL\_DSN\_SYS1\_VTAMLIB**  
**GBL\_DSN\_SYS1\_VTAMLST**

### Permissible values

To avoid exceeding the z/OS 44-character limit for data set names, the combined length of **RTE\_NAME** and **RTE\_PLIB\_HILEV** should not exceed 28 characters. For example, if **RTE\_NAME** is 8 characters, then **RTE\_PLIB\_HILEV** should not exceed 20 characters.

## RTE\_SECURITY\_CLASS

This parameter specifies a System Authorization Facility (SAF) security class name for OMEGAMON enhanced 3270 user interface security controls.

### Description

Use this parameter to specify the SAF security class for OMEGAMON enhanced 3270 user interface (enhanced 3270UI) security controls. The enhanced 3270UI performs security validation processing by authenticating the user identity using the SAF interface. The existence of the SAF user and its validity (that is, whether it is suspended) are always checked.

This parameter applies to the OMEGAMON enhanced 3270 user interface and the OMEGAMON monitoring agents that use the enhanced 3270UI. Individual products have additional SAF security settings that are specific to the respective product (for example, how to secure product-specific Take Action requests). To secure other products, see the product-specific documentation for information.

**Important (for Configuration Manager users only):** If a value is not specified for override parameter `Kpp_SECURITY_ACTION_CLASS` (where *pp* is C5, M5, or N3), then the `RTE_SECURITY_CLASS` parameter value will be assigned as the default value.

#### Required or optional

Optional

#### Default value

None

#### Permissible values

A valid SAF class name, which can be a string of up to 8 characters. If you are using ACF2 as your external security resource manager, specify a maximum of 3 characters.

#### Related parameters

- `KOB_SAF_ACTION_CLASS_NAME`
- `KC5_SECURITY_ACTION_CLASS`
- `KM5_SECURITY_ACTION_CLASS`
- `KN3_SECURITY_ACTION_CLASS`

## RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG

This parameter controls if password and password phrase (passphrase) values are folded to uppercase.

#### Description

By default, the TMS:Engine folds logon password and password phrase (passphrase) values to uppercase (parameter default value Y).

If you want to use mixed-case password or passphrase values, set this parameter to N so that the characters do not fold to uppercase, allowing mixed-case values to persist.

**Note:** Support for mixed-case passwords on your system requires activation of the SETROPTS PASSWORD(MIXEDCASE) option in RACF®.

#### Default value

Y

#### Permissible values

Y, N

#### Related parameters

`RTE_SECURITY_USER_LOGON`

## RTE\_SECURITY\_USER\_LOGON

The security system to be used for the runtime environment.

#### Description

The security system to be used for the runtime environment.

If you specify a security system, verify that it is installed and configured correctly for your site.

The `RTE_SECURITY_USER_LOGON` parameter specifies which system will be used to validate users signing on to the Tivoli® Enterprise Portal (TEP), but it does not enable validation. To enable validation of users signing on to TEP, the `KDS_TEMS_SECURITY_KDS_VALIDATE` parameter value must be Y (its default value).

**Default value**

NONE

**Permissible values****NONE**

No security.

**RACF**

IBM® z/OS® Security Server.

**ACF2**

CA ACF2.

If you specify ACF2, you must set the **GBL\_DSN\_ACF2\_MACLIB** parameter to the name of the ACF2 macro library.**TSS**

CA Top Secret.

**NAM**

Network Access Manager.

**SAF**

IBM® z/OS® System Authorization Facility API.

**RTE\_STC\_PREFIX**

The prefix of started task names for this runtime environment.

**Description**

The prefix of started task names for this runtime environment.

The **CREATE** action of IBM Z® Monitoring Configuration Manager sets the following value:

OMEG

(an abbreviation of OMEGAMON®).

**Default value**

IBM

**Permissible values**

1 - 4 characters.

**RTE\_TCP\_HOST**

This parameter contains the TCP/IP hostname or IP address of the z/OS® system where the runtime environment is being defined.

**Description**This parameter contains the TCP/IP hostname or IP address of the z/OS® system where the runtime environment is being defined. To obtain the hostname and IP address, you can enter **TSO HOMETEST** at a command line.For a high-availability hub monitoring server, this parameter value must be set to the dynamic virtual IP address (DVIPA) and must match the value in parameter **KDS\_TEMS\_TCP\_HOST**.**For Configuration Manager:**

To ensure consistent settings for the agents and components in the runtime environment, this parameter provides the default value for some other parameters that specify the hostname.

If you configure a monitoring server as part of your runtime environment, this parameter value is used as the default **KDS\_TEMS\_TCP\_HOST** parameter value. Depending on other settings in the runtime

environment, this parameter value might also be used as the default value for the **Kpp\_TEMS\_TCP\_HOST** parameters.

If you do not configure a monitoring server as part of the runtime environment, this parameter value is used as the default value for the **Kpp\_TEMS\_TCP\_HOST** parameters.

**For PARMGEN:**

This parameter does not impact the default setting of any other parameter value.

**Default value**

%SYSIPHOSTNAME%

**Permissible values**

Character string, maximum length 39

**Related parameters**

- [RTE\\_TCP\\_PORT\\_NUM](#)
- [KDS\\_TEMS\\_TCP\\_HOST](#)
- [KDS\\_HUB\\_TCP\\_HOST](#)
- [Kpp\\_TEMS\\_TCP\\_HOST](#)

## RTE\_TCP\_PORT\_NUM

This parameter contains the well-known port for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4).

**Description**

Well-known port for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4).

**For Configuration Manager:**

This parameter sets the default values of several parameters that specify port numbers, including:

**KDS\_TEMS\_TCP\_PIPE\_PORT\_NUM**  
**Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**

**For PARMGEN:**

This parameter does not impact the default setting of any other parameter value.

**Default value**

1918

**Permissible values**

1 - 65535

**Related parameters**

- [RTE\\_TCP\\_HOST](#)
- [KDS\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM](#)

## RTE\_TEMS\_NAME\_NODEID

Identifies the monitoring server for internal processing.

**Description**

Identifies the monitoring server for internal processing.

The **KDS\_HUB\_TEMS\_NAME\_NODEID** parameter of remote monitoring servers must refer to the **RTE\_TEMS\_NAME\_NODEID** of the hub monitoring server. For example, if the hub sets **RTE\_TEMS\_NAME\_NODEID** to HUB:TEMS, then the runtime environments for remote monitoring servers must set **KDS\_HUB\_TEMS\_NAME\_NODEID** to HUB:TEMS.

The **CREATE** action of IBM Z® Monitoring Configuration Manager sets the following value:

*rte\_name*:TEMS

where TEMS stands for Tivoli® Enterprise Monitoring Server, reflecting current terminology.

#### Default value

`rte_name:CMS`

## RTE\_TEMS\_TRANSPORT\_MODE

Use this parameter to specify the Hypertext Transfer Protocol to use for communication with the Tivoli Enterprise Monitoring Server.

#### Description

This parameter specifies the Hypertext Transfer Protocol to use for communication between the Tivoli Enterprise Monitoring Server (TEMS) and other components.

**Note:** HTTP and HTTPS communication protocol configuration specified in `Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS` and `Kpp_X_KDE_TRANSPORT_GBL_OPTIONS` can potentially override `RTE_TEMS_TRANSPORT_MODE` parameter output in the `KppENV` members.

#### Permissible values

##### HTTPS

Enables the HTTPS communication protocol for the Tivoli Enterprise Monitoring Server, and disables the HTTP communication protocol for all agents. Use parameter `KDS_TEMS_HTTPS_PORT_NUM` to specify the HTTPS port.

##### HTTP

Enables HTTP communication protocol for the Tivoli Enterprise Monitoring Server, and disables the HTTPS communication protocol. Use parameter `KDS_TEMS_HTTP_PORT_NUM` to specify the HTTP port.

##### NONE

Disables HTTP and HTTPS communication protocols for all agents.

#### Default value

HTTPS

#### Related parameters

- `KDS_TEMS_HTTP_PORT_NUM`
- `KDS_TEMS_HTTPS_PORT_NUM`
- `Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS`
- `Kpp_X_KDE_TRANSPORT_GBL_OPTIONS`

## RTE\_USS\_RTEDIR

The path where runtime members are stored in z/OS® UNIX® System Services.

#### Description

The path where runtime members are stored in z/OS® UNIX® System Services.

The runtime environment name, parameter `RTE_NAME`, is appended to the value of `RTE_USS_RTEDIR` as a directory name.

The TSO user ID that runs IBM Z® Monitoring Configuration Manager jobs must have permission to write to this directory, otherwise the **GENERATE** action will fail.

As an example, if `RTE_USS_RTEDIR` is `/var/rtehome` and `RTE_NAME` is `RTE1`, then runtime members are stored in:

`/var/rtehome/RTE1/*`

#### Default value

`/var/rtehome`

## RTE\_VTAM\_APPLID\_PREFIX

The global VTAM® applid prefix to be used to build the VTAM® applids for products in this runtime environment.

### Description

The global VTAM® applid prefix to be used to build the VTAM® applids for products in this runtime environment.

The **CREATE** action of IBM Z® Monitoring Configuration Manager sets the following value:

OM $xx$

where  $xx$  is the value of the z/OS® static system symbol **SYSCZONE**. **SYSCZONE** is a 1- or 2-character shorthand notation for the system (LPAR) name.

### Default value

CTD

## RTE\_X\_SECURITY\_EXIT\_LIB

This parameter specifies the library containing the security exits used for the runtime environment.

**Note:** This parameter is valid in both PARMGEN and Configuration Manager; however, its function differs slightly. This topic describes this parameter as it applies to Configuration Manager.

### Description

This parameter specifies the library containing the security exits used for the runtime environment.

The **RTE\_X\_SECURITY\_EXIT\_LIB** parameter specifies the name of the global runtime environment library that contains all of the OMEGAMON and IBM Tivoli Monitoring-related product security exits (such as KOBSPDT OMEGAMON  $Kpp$ SUPDI exits, Tivoli Monitoring Services: Engine security exits, external security exits).

Example value: TEST1.TST.DEMO.SECEXITS

### Default value

$\langle rte\_plib\_hilev \rangle . \langle rte\_name \rangle . SECEXITS$

### Permissible values

A valid data set name.

## Parameters with significant default values

The runtime environment defined by the initial set of parameters is configured not just by the relatively small number of parameters in that set, but also by the default values of many other parameters.

The following parameter is not included in the initial set, but its default value significantly affects the runtime environment.

## RTE\_TYPE

This parameter determines whether runtime members are a full stand-alone set or shared with SMP/E target installation libraries.

### Description

This parameter determines whether runtime members are a full stand-alone set or shared with SMP/E target installation libraries.

### Default value

Configuration Manager: SHARING

PARMGEN: FULL

## Permissible values

The following descriptions apply to Configuration Manager:

### FULL

Stand-alone runtime members. Runtime members have no dependency on target libraries.

### SHARING

Some runtime members refer to the target libraries.

The high-level qualifiers of the target libraries are specified by the **GBL\_TARGET\_HILEV** parameter.

SHARING reduces the storage requirement for each runtime environment.

If **RTE\_TYPE** is SHARING, then the value of the **RTE\_SHARE** parameter must be SMP.

## Parameters with different default values than PARMGEN

IBM Z® Monitoring Configuration Manager sets some different default parameter values than PARMGEN.

In some cases, instead of changing the default value of a parameter, Monitoring Configuration Manager sets a different example value in the [initial set of parameters](#).

Parameter	PARMGEN default value and reason for change	Monitoring Configuration Manager default value
<b>GBL_DSN_CSF_SCSFMODE0</b>	In PARMGEN, this parameter is commented out in the WCONFIG (\$GBL\$USR) member. In Configuration Manager, it is explicitly added in the GBL\$PARM member that is generated after the <b>CREATE</b> or <b>MIGRATE</b> action, as it is relevant for several security-related aspects of the product configuration (such as password encryption). As described in the parameter description, if your installation does not use the Integrated Cryptographic Service Facility (ICSF), you can remove or comment out this parameter in your RTEDEF (GBL\$PARM) or RTEDEF (GBL\$lpar).	CSF . SCSFMODE0
<b>GBL_DSN_SYS1_PROCLIB</b> <b>GBL_DSN_SYS1_VTAMLIB</b> <b>GBL_DSN_SYS1_VTAMLST</b>	SYS1 . PROCLIB SYS1 . VTAMLIB SYS1 . VTAMLST Sites typically have their own procedures for copying members to system libraries, limited to z/OS® system administrators with special permissions.	<i>rte_hilev</i> .SYS1 . PROCLIB <i>rte_hilev</i> .SYS1 . VTAMLIB <i>rte_hilev</i> .SYS1 . VTAMLST
<b>KDS_KMS_SDA</b>	N Using the self-describing agent (SDA) function is best practice.	Y
<b>KDS_TEMS_TCP_KDEB_INTERFACELIST</b> <b>Kpp_AGT_TCP_KDEB_INTERFACELIST</b>	None Specifying a default value is best practice.	!* Inherited from parameter <b>RTE_TCP_KDEB_INTERFACELIST</b>
<b>KMQ_HISTCOLL_DATA_FLAG</b>	N Collecting historical data is best practice.	Y

Parameter	PARMGEN default value and reason for change	Monitoring Configuration Manager default value
KMQ_STARTMON_ACTIVEONLY	NO Only monitoring active queue managers is best practice.	YES
KYN_XAI01_SUBAGENT_JAVAHOME	/usr/lpp/java/J7.1 There is no need for a default value specifically for this subagent. Use the existing global parameters as a default value instead.	Concatenation of the following two parameter values: <i>gbl_hfs_java_dir1</i> <i>gbl_hfs_java_dir2</i>
RTE_TYPE	FULL SHARING reduces the storage requirement for each runtime environment.	SHARING  <b>Note:</b> When <b>RTE_TYPE</b> is SHARING, then the value of the <b>RTE_SHARE</b> parameter must be SMP, which indicates sharing with SMP/E target libraries. Configuration Manager does not use base or sharing-with-base runtime environments (as in PARMGEN).
RTE_USS_RTEDIR	/rtehome Creating a new subdirectory of the root directory is bad practice.	/var/rtehome
RTE_X_SECURITY_EXIT_LIB	<i>rte_hilev.rtename</i> .RKANSAMU Identifies the security exits library currently used in PARMGEN.	<i>rte_hilev.rte_name</i> .SECEXITS

## Parameters introduced by Monitoring Configuration Manager

IBM Z® Monitoring Configuration Manager introduces some parameters that do not exist in PARMGEN.

### Global (GBL) parameter introduced by Configuration Manager

The global parameters provide default settings for installation and common system library names.

The global parameter introduced by IBM Z® Monitoring Configuration Manager is explained in this section.

#### GBL\_USS\_TKAYHFS\_PATH

This parameter specifies the SMP/E TKAYHFS ddname installation directory.

##### Description

This parameter specifies the path of the z/OS UNIX directory that the SMP/E installation jobs for IBM Z OMEGAMON Data Provider define using the ddname TKAYHFS.

Depending on your local site practices, this path might refer to a copy of the SMP/E-managed directory rather than the original.

This directory is read-only for Monitoring Configuration Manager; Monitoring Configuration Manager does not write to this directory.

##### Default value

/usr/lpp/omdp

**Permissible values**

Character string, maximum length 44

**GBL\_UTIL\_BINDER**

This parameter allows you to override the default binder program name.

**Description**

To use a binder program other than the default IEWL, specify the name of the program in this parameter. If the name is in the list of documented IEWL aliases, then KCIOMEGA will rename the SYSPRINT, as it does for IEWL.

**Required or optional**

Required

**Default value**

IEWL

**Permissible values**

A valid MVS program name

**Runtime environment (RTE) parameters introduced by Configuration Manager**

The runtime environment parameters provide configuration settings for an individual runtime environment and default settings for the OMEGAMON components and products configured in that runtime environment.

The runtime environment parameters introduced by IBM Z® Monitoring Configuration Manager are explained in this section. The **RTE\_COMM\_PROTOCOLn**, **RTE\_TCP\_\***, and **RTE\_VTAM\_NETID** parameters offer an easy way to set all components to the same values, rather than setting parameters individually for each component.

**RTE\_COMM\_PROTOCOLn**

This parameter sets the communication protocol choices of all components in the runtime environment.

**Note:** This parameter is valid in Configuration Manager only. It is not valid in PARMGEN.

**Description**

The **RTE\_COMM\_PROTOCOLn** (n: 1 - 7) parameters set the value of the **KDS\_TEMS\_COMM\_PROTOCOLn** and **Kpp\_AGT\_COMM\_PROTOCOLn** parameters. This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

**Required or optional**

Optional

**Default value**

None

**Permissible values**

*Table 39: RTE\_COMM\_PROTOCOLn permissible values*

Value	Protocol description	Corresponding protocol-specific parameters
IPPIPE	Non-secure TCP over IPv4	RTE_TCP_HOST RTE_TCP_PORT_NUM
IP	Non-secure UDP over IPv4	RTE_TCP_HOST RTE_TCP_UDP_PORT_NUM

Value	Protocol description	Corresponding protocol-specific parameters
IP6PIPE	Non-secure TCP over IPv6	RTE_TCP_HOST RTE_TCP_PIPE6_PORT_NUM
IP6	Non-secure UDP over IPv6	RTE_TCP_HOST RTE_TCP_UDP6_PORT_NUM
IPSPPIPE	Secure (SSL/TLS) TCP over IPv4	RTE_TCP_HOST RTE_TCP_PIPES_PORT_NUM
IPS6PIPE	Secure (SSL/TLS) TCP over IPv6	RTE_TCP_HOST RTE_TCP_PIPE6S_PORT_NUM
SNA	NCS RPC: Systems Network Architecture implementation of the Network Computing System Remote Procedure Call API	Kpp_TEMS_VTAM_APPL_LL_BROKER Kpp_TEMS_VTAM_LU62_DLOGMOD Kpp_TEMS_VTAM_LU62_MODETAB RTE_VTAM_NETID

Default values of **KDS\_TEMS\_COMM\_PROTOCOLn** and **Kpp\_AGT\_COMM\_PROTOCOLn**:

n	Value
1	IPPIPE
2	SNA

#### Example

Parameter	Value	Description
<b>RTE_COMM_PROTOCOL1</b>	IPSPPIPE	First choice: secure TCP over IPv4
<b>RTE_COMM_PROTOCOL2</b>	IPPIPE	Second choice: non-secure TCP over IPv4

#### Related parameters

- [KDS\\_TEMS\\_COMM\\_PROTOCOLn](#)
- [Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)

#### RTE\_TCP\_KDEB\_INTERFACELIST

This Configuration Manager-only parameters directs all components in the runtime environment to connect to a specific TCP/IP local interface.

#### Description

The **RTE\_TCP\_KDEB\_INTERFACELIST** parameter sets the value of the **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** and **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST** parameters.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

If the z/OS® image has more than one TCP/IP interface or network adapter, you can use this parameter to direct components to connect to a specific TCP/IP local interface.

#### Default value

!\* (exclamation point followed by an asterisk)

#### Permissible values

Character string, maximum length 44, specifying one or more network interfaces to use.

To set a network interface list, supply one of the following values:

- The hostname or IP address of the preferred interface.
- A list of hostnames or IP addresses, in descending order of preference. Use a blank (space) to separate the entries.

- An asterisk (\*) to prefer the interface associated with the default hostname for the z/OS® image. To display this value, enter TSO HOMETEST at the command line.
- An exclamation point followed by an asterisk (!\*) to use only the interface associated with the default hostname for the z/OS® image.
- An exclamation point followed by a hostname or IP address (!*hostname*) to use only the interface associated with *hostname*.

**Note:**

- If you set the value of this parameter to !\* or !*hostname*, you must specify the same value for every component and product configured in all runtime environments on the same z/OS® image.
- In the default character set (LANG=en\_US.ibm-037), the code for an exclamation point is x'5A'. If you are using a character set other than the default, a different character might map to that code. To require a specific network interface, use the character that maps to x'5A' in your character set.

For a high-availability hub, specify the value of this parameter as !*dvipa\_hostname*, where *dvipa\_hostname* is the private DVIPA name set for the **KDS\_TEMS\_TCP\_HOST** parameter.

### **RTE\_TCP\_PIPE6\_PORT\_NUM**

Sets the port number for all components in the runtime environment that use the TCP over IPv6 communication protocol.

**Description**

The **RTE\_TCP\_PIPE6\_PORT\_NUM** parameter sets the value of the **KDS\_TEMS\_TCP\_PIPE6\_PORT\_NUM** and **Kpp\_TEMS\_TCP\_PIPE6\_PORT\_NUM** parameters.

This parameter is used only if one of the parameters that sets communication protocol choices, **\*\_COMM\_PROTOCOLn**, specifies the value for this protocol, IP6PIPE.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

**Default value**

*none*

**Permissible values**

A port number.

### **RTE\_TCP\_PIPE6S\_PORT\_NUM**

Sets the port number for all components in the runtime environment that use the secure TCP over IPv6 communication protocol.

**Description**

The **RTE\_TCP\_PIPE6S\_PORT\_NUM** parameter sets the value of the **KDS\_TEMS\_TCP\_PIPE6S\_PORT\_NUM** and **Kpp\_TEMS\_TCP\_PIPE6S\_PORT\_NUM** parameters.

This parameter is used only if one of the parameters that sets communication protocol choices, **\*\_COMM\_PROTOCOLn**, specifies the value for this protocol, IPS6PIPE.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

**Default value**

*none*

**Permissible values**

A port number.

## RTE\_TCP\_PIPES\_PORT\_NUM

Sets the port number for all components in the runtime environment that use the secure TCP over IPv4 communication protocol.

### Description

The **RTE\_TCP\_PIPES\_PORT\_NUM** parameter sets the value of the **KDS\_TEMS\_TCP\_PIPES\_PORT\_NUM** and **Kpp\_TEMS\_TCP\_PIPES\_PORT\_NUM** parameters.

This parameter is used only if one of the parameters that sets communication protocol choices, **\*\_COMM\_PROTOCOLn**, specifies the value for this protocol, IPSPiPE.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

### Default value

*none*

### Permissible values

A port number.

## RTE\_TCP\_STC

Sets the TCP/IP stack for all components in the runtime environment that use the IP communication protocol.

### Description

The **RTE\_TCP\_STC** parameter sets the value of the **KDS\_TEMS\_TCP\_STC** and **Kpp\_AGT\_TCP\_STC** parameters.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

This parameter sets the value of the **TCP/IP\_USERID** parameter in the **KppINTCP** member of the **RKANPARU** library.

Setting **RTE\_TCP\_STC** to **#** (pound or hash sign) sets the value of **TCP/IP\_USERID** to a blank (space), which allows TCP/IP to decide the stack associated with the address space, for better load balancing.

### Default value

**#** (pound or hash sign)

### Permissible values

If the LPAR contains more than one TCP/IP stack, specify the started task name of the TCP/IP stack you want to use. Alternatively, specify a hash sign (**#**), which is translated to a blank and allows the TCP/IP environment to choose the stack to use, either through TCP/IP definitions or through the use of the **SYSTCPD** DD statement.

Whichever method is used to select a TCP/IP stack in a multi-stack environment, the Tivoli® Management Services components continue to use that stack, even if a different stack becomes the primary stack. Therefore, in a multi-stack environment, it is best to specify the started task name of the TCP/IP stack to be used, rather than specifying a wildcard or a blank.

## RTE\_TCP\_UDP\_PORT\_NUM

Sets the port number for all components in the runtime environment that use the UDP over IPv4 communication protocol.

### Description

The **RTE\_TCP\_UDP\_PORT\_NUM** parameter sets the value of the **KDS\_TEMS\_TCP\_UDP\_PORT\_NUM** and **Kpp\_TEMS\_TCP\_UDP\_PORT\_NUM** parameters.

This parameter is used only if one of the parameters that sets communication protocol choices, **\*\_COMM\_PROTOCOLn**, specifies the value for this protocol, IP.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

**Default value**

*none*

**Permissible values**

A port number.

**RTE\_TCP\_UDP6\_PORT\_NUM**

Sets the port number for all components in the runtime environment that use the UDP over IPv6 communication protocol.

**Description**

The **RTE\_TCP\_UDP6\_PORT\_NUM** parameter sets the value of the **KDS\_TEMS\_TCP\_UDP6\_PORT\_NUM** and **Kpp\_TEMS\_TCP\_UDP6\_PORT\_NUM** parameters.

This parameter is used only if one of the parameters that sets communication protocol choices, **\*\_COMM\_PROTOCOLn**, specifies the value for this protocol, IP6.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

**Default value**

*none*

**Permissible values**

A port number.

**RTE\_VTAM\_NETID**

Sets the VTAM® network ID for all components in the runtime environment that use the SNA communication protocol.

**Note:** This parameter is valid in both PARMGEN and Configuration Manager; however, its function differs slightly. This topic describes this parameter as it applies to Configuration Manager.

**Description**

The **RTE\_VTAM\_NETID** parameter sets the value of the **KDS\_TEMS\_VTAM\_NETID** and **Kpp\_TEMS\_VTAM\_NETID** parameters.

This parameter is used only if one of the parameters that sets communication protocol choices, **\*\_COMM\_PROTOCOLn**, specifies the value for this protocol, SNAPPIPE.

This parameter offers an easy way to set all components to the same values, rather than setting parameters individually for each component.

**Default value**

*none*

**Permissible values**

A VTAM® network ID.

**RTE\_X\_OVERRIDE\_EMBEDS\_LIB**

This parameter specifies the name of the source library for override embed members.

**Description**

Override embed files can be used to add user-defined parameters and values that might be overwritten during the **GENERATE** action.

If the **KFJ\_USE\_EMBEDS** parameter is set to Y, this parameter is automatically defined in the *rte\_plib\_hilev.RTEDEF(rte\_name)* member during an initial **CREATE** or **MIGRATE** action when creating an RTE.

**Note:** If the **KFJ\_USE\_EMBEDS** parameter was not set to Y when creating the RTE, you must manually add this parameter to the *rte\_plib\_hilev.RTEDEF(rte\_name)* member to enable the use of override embed members for the RTE.

This library contains all the override embed members for all products installed in the respective CSI.

Example value: TEST1.TST.DEMO.EMBEDS

#### Default value

*<rte\_plib\_hilev>.<rte\_name>.EMBEDS*

#### Permissible values

A valid MVS data set name.

#### Related parameters

KFJ\_USE\_EMBEDS  
KFJ\_EMBEDS\_LIB

### RTE\_X\_SECURITY\_EXIT\_LIB

This parameter specifies the library containing the security exits used for the runtime environment.

**Note:** This parameter is valid in both PARMGEN and Configuration Manager; however, its function differs slightly. This topic describes this parameter as it applies to Configuration Manager.

#### Description

This parameter specifies the library containing the security exits used for the runtime environment.

The **RTE\_X\_SECURITY\_EXIT\_LIB** parameter specifies the name of the global runtime environment library that contains all of the OMEGAMON and IBM Tivoli Monitoring-related product security exits (such as KOBSPDT OMEGAMON *KppSUPDI* exits, Tivoli Monitoring Services: Engine security exits, external security exits).

Example value: TEST1.TST.DEMO.SESEXITS

#### Default value

*<rte\_plib\_hilev>.<rte\_name>.SESEXITS*

#### Permissible values

A valid data set name.

### Configuration Manager (KFJ) parameters

The Configuration Manager parameters have the prefix KFJ.

### KFJ\_ADRDSSU\_ADMIN

This parameter specifies whether to include the ADMINISTRATOR keyword with z/OS DFSMSdss commands.

#### Description

The **PACKAGE** and **DEPLOY** actions use z/OS DFSMSdss commands when creating and restoring dump data sets. The ADMINISTRATOR keyword allows you to act as a DFSMSdss-authorized storage administrator. Specify this value in accordance with security settings at your site.

Y

Include the ADMINISTRATOR keyword

**N**

Do not include the ADMINISTRATOR keyword

**Notes:**

- You might need authority to run **ADDRSSU**, which is the program that is invoked when using DFSMSdss.
- You might need additional authority to use the ADMINISTRATOR keyword. For more information about using the ADMINISTRATOR keyword, see the following topics in the *z/OS DFSMSdss Storage Administration Reference*: [ADMINISTRATOR keyword](#), [FACILITY class profiles for the ADMINISTRATOR keyword](#)

**Default value**

N

**Permissible values**

Y, N

**KFJ\_EMBEDS\_LIB**

This parameter identifies the data set that contains the override embed values for the RTE.

**Description**

Use this parameter to specify the name of the data set (the *embeds data set*) that will contain the override embed values to use for the RTE. The data set must be accessible by Monitoring Configuration Manager. An example of the data set name is *highlevel.CFM.RTEDEF.EMBEDS*.

This parameter is active only if **KFJ\_USE\_EMBEDS** is set to Y.

The default name of the embeds data set is *rte\_plib\_hilev.rte\_name.EMBEDS*, which is intended for a single RTE. By using **KFJ\_EMBEDS\_LIB**, you can customize the name of the embeds data set and use the same override embed parameters and values for multiple RTEs. If you will be using different override values for different RTEs, consider using the *rte\_name* or *sysname* values in the data set name.

If the specified data set does not exist when the **CREATE** or **MIGRATE** action runs, Monitoring Configuration Manager creates the data set and populates it with the override embed parameters and values for the products that are installed in the respective CSI used to build the RTE. For the **MIGRATE** action, this library will contain the override embed parameters and values from the RTE being migrated from.

If the specified data set exists when the **CREATE** or **MIGRATE** action runs, none of the existing members in it are changed or removed; only new members are added, which can occur if the CSI used to build the RTE has changed to add products.

**Required or optional**

Optional

**Default value**

*rte\_plib\_hilev.rte\_name.EMBEDS*

**Permissible values**

A valid MVS data set name

**Example**

TEST1.TST.DEMO.EMBEDS

**Related parameters**

[KFJ\\_USE\\_EMBEDS](#)

["RTE\\_X\\_OVERRIDE\\_EMBEDS\\_LIB" on page 298](#)

## KFJ\_LOCAL\_HILEV

Assigns a local non-VSAM high-level qualifier.

The KFJ\_LOCAL\_HILEV parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member, and identifies the non-VSAM high-level qualifier to be used for allocating the local runtime data sets when the GENERATE action is run. The names of the non-VSAM data sets will be generated by appending the appropriate suffix to this parameter.

KFJ\_LOCAL\_HILEV maps to the local value of RTE\_HILEV that is used on the deployment target system.

### Required or optional

Optional

### Default value

%KFJ\_LOCAL\_PLIB\_HILEV%

### Location where the parameter value is stored

This value is not stored in a configuration member.

## KFJ\_LOCAL\_KD5\_RUN\_ALLOC

This parameter controls if the job for Db2-related data set allocation is submitted. This parameter is used for remote deployment scenarios.

### Description

In a remote deployment scenario, you can use this parameter to specify whether to submit the Db2-related data set allocation job. This job allocates all operational data sets required for the enabled functions (for example, to collect data for Thread History). This job does not overwrite existing operational data sets.

Specify one of the following values:

#### GENERATE

Trigger the ALLOCDS JCL job during the GENERATE action. With this option, you cannot customize the KD2 operational data set allocation parameters.

#### DEPLOY

Trigger the ALLOCDS JCL job during the DEPLOY action. With this option, you can customize the KD2 operational data set allocation parameters.

#### NONE

Do not trigger the ALLOCDS JCL job. With this option, you can customize the KD2 operational data set allocation parameters.

**Tip:** For non-remote deployment scenarios (PACKAGE, DEPLOY), you can use parameter KD2\_OMPE\_RUNALLOC to perform the same function.

### Required or optional

Optional

### Default value

GENERATE

### Permissible values

GENERATE, DEPLOY, NONE

### Related parameters

KD2\_OMPE\_RUNALLOC

## KFJ\_LOCAL\_PDS\_HILEV

Specifies the PDS V1 local high-level qualifier.

The KFJ\_LOCAL\_PDS\_HILEV parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*lpar*) member, and identifies the high-level qualifier for the local Persistent Data Store (PDS) V1 data sets. It maps to the local value of RTE\_PDS\_HILEV that is used on the deployment target system.

**Required or optional**

Optional

**Default value**

%KFJ\_LOCAL\_HILEV%.%RTE\_NAME%

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_LOCAL\_PLIB\_HILEV**

This parameter specifies the high-level qualifiers for local libraries.

**Description**

This parameter allows for local generation of runtime environment data sets RTEDEF, EMBEDS, and SECEXITS.

Specifying this member triggers the generation of member PCK\$PARM (or PCK\$*lpar*) in the RTEDEF data set. This parameter populates the default values for other **KFJ\_LOCAL\_\*** high-level qualifier parameters in the PCK\$\* members, such as **KFJ\_LOCAL\_HILEV** and **KFJ\_LOCAL\_VSAM\_HILEV**.

For remote deployment scenarios, this parameter allows local libraries to be used for creating, configuring, and packaging a runtime environment that can then be deployed to another system that uses different high-level qualifiers from the configuration system. For more information, see [“Remote deployment example using local libraries” on page 343](#).

This parameter can be used with the following actions: **CREATE, MIGRATE, GENERATE, PACKAGE, DELETE**

This parameter is specified in the KCIVARS DD statement in the action job JCL and is not stored in an RTEDEF member.

**Default value**

N/A

**Related parameters**

- [RTE\\_PLIB\\_HILEV](#)
- [KFJ\\_PACK\\_HILEV](#)

**KFJ\_LOCAL\_SMS\_MGMTCLAS**

Identifies the MGMTCLAS for local non-VSAM libraries.

The KFJ\_LOCAL\_SMS\_MGMTCLAS parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*lpar*) member and indicates the SMS Management Class to be used when allocating the local non-VSAM runtime data sets. KFJ\_LOCAL\_SMS\_MGMTCLAS maps to the local value of RTE\_SMS\_MGMTCLAS that is used on the deployment target system.

**Required or optional**

Optional

**Default value**

None

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_LOCAL\_SMS\_STORCLAS**

Identifies the STORCLAS for local non-VSAM libraries.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*lpar*) member, and defines the SMS Storage Class to be used when allocating the local non-VSAM runtime data sets. KFJ\_LOCAL\_SMS\_STORCLAS maps to the local value of RTE\_SMS\_STORCLAS that is used on the deployment target system.

**Required or optional**

Optional

**Default value**

None

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_LOCAL\_SMS\_UNIT**

Specifies the Unit name for local non-VSAM libraries.

The KFJ\_LOCAL\_SMS\_UNIT parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member, and identifies the unit name to be used when allocating the local non-VSAM runtime data sets.

KFJ\_LOCAL\_SMS\_UNIT maps to the local value of RTE\_SMS\_UNIT that is used on the deployment target system.

This is a required field if the runtime data sets are not to be SMS-managed.

**Required or optional**

Required if the runtime data sets are not to be SMS-managed

**Default value**

None

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_LOCAL\_SMS\_VOLUME**

Specifies the VOLSER for the local non-VSAM libraries.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member, and identifies the volume serial number to be used when allocating the local non-VSAM runtime data sets.

KFJ\_LOCAL\_SMS\_VOLUME maps to the local value of RTE\_SMS\_VOLUME that is used on the deployment target system.

This is a required field if the runtime data sets are not to be SMS-managed.

**Required or optional**

Required if the runtime data sets are not to be SMS-managed

**Default value**

None

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_LOCAL\_SMS\_VSAM\_MGMTCLAS**

Specifies the MGMTCLAS for any local VSAM libraries.

This parameter specifies the SMS Management Class to be used when allocating the local VSAM runtime data sets. KFJ\_LOCAL\_SMS\_VSAM\_MGMTCLAS maps to the local value of RTE\_SMS\_VSAM\_MGMTCLAS that is used on the deployment target system.

**Required or optional**

Optional

**Default value**

None

**Location where the parameter value is stored**

This value is not stored in a configuration member.

## **KFJ\_LOCAL\_SMS\_VSAM\_STORCLAS**

Specifies the STORCLAS for local VSAM libraries.

The KFJ\_LOCAL\_SMS\_VSAM\_STORCLAS parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member, and identifies the SMS Storage Class to be used when allocating the local VSAM runtime data sets. KFJ\_LOCAL\_SMS\_VSAM\_STORCLAS maps to the local value of RTE\_SMS\_VSAM\_STORCLAS that is used on the deployment target system.

### **Required or optional**

Optional

### **Default value**

None

### **Location where the parameter value is stored**

This value is not stored in a configuration member.

## **KFJ\_LOCAL\_SMS\_VSAM\_VOLUME**

Specifies the VOLSER for local VSAM libraries.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member, and identifies the volume serial number to be used when allocating the local VSAM runtime data sets. KFJ\_LOCAL\_SMS\_VSAM\_VOLUME maps to the local value of RTE\_SMS\_VSAM\_VOLUME that is used on the deployment target system.

This is a required field if the runtime data sets are not to be SMS-managed.

### **Required or optional**

Required if the runtime data sets are not to be SMS-managed

### **Default value**

None

### **Location where the parameter value is stored**

This value is not stored in a configuration member.

## **KFJ\_LOCAL\_TARGET\_HILEV**

Assigns the local SMP/E target high-level qualifier.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member and identifies the high-level qualifier to be used when referencing the local SMP/E target data sets as part of the GENERATE action. The names of SMP/E target data sets will be generated by appending the appropriate suffix to this parameter.

KFJ\_LOCAL\_TARGET\_HILEV maps to the local value of the GBL\_TARGET\_HILEV parameter, which is used on the deployment target system.

### **Required or optional**

Optional

### **Default value**

None

### **Location where the parameter value is stored**

This value is not stored in a configuration member.

## **KFJ\_LOCAL\_USS\_RTEDIR**

Specify the local RTE HFS/zFS home directory.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$*par*) member. If any products in this RTE require z/OS® UNIX® System Services directories to be created, specify the local RTE HFS/zFS home

directory. KFJ\_LOCAL\_USS\_RTEDIR maps to the local value of RTE\_USS\_RTEDIR that is used on the deployment target system.

#### Required or optional

Required

#### Default value

/var/rtehome

#### Location where the parameter value is stored

This value is not stored in a configuration member.

### KFJ\_LOCAL\_USS\_TKANJAR\_PATH

Specifies the local z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKANJAR.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$lpar) member. The **KFJ\_LOCAL\_USS\_TKANJAR\_PATH** parameter maps to the value of the **GBL\_USS\_TKANJAR\_PATH** parameter that is used on the deployment target system.

#### Required or optional

Required if the runtime environment configures either of the following monitoring agents:

- CICS® Transaction Gateway (TG). The corresponding configuration parameter is **CONFIGURE\_CICS\_TG\_KGW**.
- Java™ Virtual Machine (JVM). The corresponding configuration parameter is **CONFIGURE\_JVM\_KJJ**.

#### Default value

/usr/lpp/kan/bin/IBM

#### Location where the parameter value is stored

This value is not stored in a configuration member.

#### Related parameters

[“GBL\\_USS\\_TKANJAR\\_PATH” on page 284](#)

### KFJ\_LOCAL\_USS\_TKAYHFS\_PATH

This parameter specifies the local z/OS UNIX System Services directory that the SMP/E installation jobs define using the ddname TKAYHFS.

#### Description

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$lpar) member.

This parameter maps to the value of the **GBL\_USS\_TKAYHFS\_PATH** parameter that is used on the deployment target system.

#### Default value

/usr/lpp/omdp

#### Permissible values

Character string, maximum length 44

### KFJ\_LOCAL\_VSAM\_HILEV

Specifies the local VSAM high-level qualifier.

This parameter is specified in the RTEDEF(PCK\$PARM) or RTEDEF(PCK\$lpar) member, and identifies the VSAM high-level qualifier to be used for allocating the local runtime data sets when the GENERATE action is run. The names of the VSAM data sets will be generated by appending the appropriate suffix to this parameter. KFJ\_LOCAL\_VSAM\_HILEV maps to the local value of RTE\_VSAM\_HILEV that is used on the deployment target system.

**Required or optional**

Optional

**Default value**

%KFJ\_LOCAL\_PLIB\_HILEV%

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_MIGRATE\_WCONFIG**

This parameter identifies the WCONFIG data set of the PARMGEN-configured runtime environment from which configuration settings are to be imported during migration.

**Description**

The **MIGRATE** action imports configuration settings from a runtime environment that is configured with PARMGEN to one that is configured with Configuration Manager. The **KFJ\_MIGRATE\_WCONFIG** parameter is used by the **MIGRATE** action to identify the WCONFIG data set of the source runtime environment (which is configured by PARMGEN).

**Important:** The source WCONFIG data set cannot be the same as the target WCONFIG data set. Make sure that the high-level qualifier specified for the source WCONFIG data set is not the same as the high-level qualifier of the target data sets (specified with the **RTE\_PLIB\_HILEV** parameter on the **MIGRATE** action).

**Required or optional**

Required for the **MIGRATE** action

**Default value**

None

**Permissible values**

*highlevel*.WCONFIG

Where *highlevel* is different from the target high-level qualifier specified in **RTE\_PLIB\_HILEV**

**Example**

TEST1.TST.DEMO.WCONFIG

**Location where the parameter value is stored**

This value is not stored in a configuration member.

**KFJ\_PACK\_DATACLAS**

Specifies the DATACLAS for non-VSAM package data sets.

This parameter is used by the PACKAGE and DEPLOY action, and specifies the SMS Data Class to be used when allocating or reading the non-VSAM package data sets. This parameter is not stored in any RTEDEF member and will be specified in the KCIVARS DD statement of your Configuration Manager batch JCL.

**Required or optional**

Optional

**Default value**

None

**Location where the parameter value is stored**

This value is not stored in a configuration member.

## KFJ\_PACK\_HILEV

This parameter specifies the non-VSAM high-level qualifiers for allocating and reading the package data sets used in remote deployment.

### Description

This parameter specifies the high-level qualifiers for the package data sets that are allocated and populated by the **PACKAGE** action and deployed (restored) by the **DEPLOY** action for remote deployment of runtime environments.

This parameter is required for the **DEPLOY** action if you transfer your package data sets from the configuration system to the remote (target) system with a qualifier that is different from the **RTE\_PLIB\_HILEV** parameter value.

For details about using this parameter, see [“PACKAGE” on page 265](#) and [“DEPLOY” on page 268](#).

This parameter is specified in the KCIVARS DD statement in the action job JCL and is not stored in an RTEDEF member.

### Default value

None

### Related parameters

- [RTE\\_PLIB\\_HILEV](#)
- [KFJ\\_LOCAL\\_PLIB\\_HILEV](#)

## KFJ\_PACK\_MGMTCLAS

Specifies the MGMTCLAS for non-VSAM package data sets.

The KFJ\_PACK\_MGMTCLAS parameter is used by the PACKAGE and DEPLOY action, and specifies the SMS Management Class to be used when allocating or reading the non-VSAM package data sets. This parameter is not stored in any RTEDEF member and will be specified in the KCIVARS DD statement of your Configuration Manager batch JCL.

### Required or optional

Optional

### Default value

None

### Location where the parameter value is stored

This value is not stored in a configuration member.

## KFJ\_PACK\_STORCLAS

Specifies the STORCLAS for non-VSAM package data sets.

The KFJ\_PACK\_STORCLAS parameter is used by the PACKAGE and DEPLOY action, and specifies the SMS Storage Class to be used when allocating or reading the non-VSAM package data sets. This parameter is not stored in any RTEDEF member and will be specified in the KCIVARS DD statement of your Configuration Manager batch JCL.

### Required or optional

Optional

### Default value

None

### Location where the parameter value is stored

This value is not stored in a configuration member.

## **KFJ\_PACK\_TERSE**

Specifies to use the terse data set option.

The KFJ\_PACK\_TERSE parameter works as a switch during PACKAGE and DEPLOY actions:

- **Y** – Terse the packages created during PACKAGE action, that is, append suffix "TRS" to the package data set. Instruct the DEPLOY action to read tersed package data sets. Use KFJ\_PACK\_TERSE Y if you transfer package data sets using FTP.
- **N** – Do not terse the package data sets created by the PACKAGE action. The DEPLOY action will read the DUMP data sets using the documented naming convention. Use KFJ\_PACK\_TERSE N when working with Virtual Tapes.

This parameter is not stored in any RTEDEF member and will be specified in the KCIVARS DD statement of your Configuration Manager batch JCL.

### **Required or optional**

Optional

### **Default value**

N

### **Permissible values**

Y, N

### **Location where the parameter value is stored**

This value is not stored in a configuration member.

## **KFJ\_PACK\_UNIT**

Specifies the Unit value for non-VSAM package data sets.

The KFJ\_PACK\_UNIT parameter is used by the PACKAGE and DEPLOY action, and specifies the UNIT name to be used when allocating or reading the non-VSAM package data sets. This parameter is not stored in any RTEDEF member and will be specified in the KCIVARS DD statement of your Configuration Manager batch JCL.

This parameter is required if the package data sets are not to be SMS-managed.

### **Required or optional**

Required if the package data sets are not to be SMS-managed

### **Default value**

None

### **Location where the parameter value is stored**

This value is not stored in a configuration member.

## **KFJ\_PACK\_VOLUME**

Specifies the volume for the non-VSAM package data set.

The KFJ\_PACK\_VOLUME parameter is used by the PACKAGE and DEPLOY actions, and specifies the volume serial number/name to be used when allocating or reading the non-VSAM package data sets. This parameter is not stored in any RTEDEF member and is specified in the KCIVARS DD statement of the Configuration Manager batch JCL.

This parameter is required if the package data sets are not to be SMS-managed.

### **Required or optional**

Required if the package data sets are not to be SMS-managed

### **Default value**

None

### **Location where the parameter value is stored**

This value is not stored in a configuration member.

## KFJ\_PDCOL\_ADR\_ARCHIVE

This parameter specifies the name of the ADRDSSU archive for the **PDCOLLECT** action to restore.

**Note:** This parameter is for use by IBM Software Support only.

### Description

This parameter specifies the name of the **ADRDSSU** archive for the **PDCOLLECT** action to restore.

### Default value

None

### Permissible values

Character string, maximum length 44

### Related parameters

[“KFJ\\_PDCOLLECT\\_RESTORE” on page 314](#)

[“KFJ\\_PDCOL\\_RESTORE\\_HLQ” on page 312](#)

## KFJ\_PDCOL\_COLLECT\_data

This parameter (with its variations) specifies the diagnostic data items that the **PDCOLLECT** action collects. You can control the collection of each of the items individually.

### Description

This parameter specifies the diagnostic data that the **PDCOLLECT** action collects at a detailed level. The variations of this parameter are referred to as *collection flags*. You can control each of the flags individually.

The following table lists the collection flags that are available and describes the content that each setting collects.

Parameter	Description
KFJ_PDCOL_COLLECT_STC	Collects the started task log
KFJ_PDCOL_COLLECT_NETSTAT	Collects network information using the <b>netstat</b> utility
KFJ_PDCOL_COLLECT_DASTATS	Collects SDSF Display Active Users (DA) statistics
KFJ_PDCOL_COLLECT_RK	Collects libraries RKANSAMU, RKANPARU, RKANCMDU, RKANDATV, RKCPDEFW, RKD2PAR, RKD2SAM
KFJ_PDCOL_COLLECT_TRG	Collects libraries <i>x</i> KANCMD, <i>x</i> KANSAM, <i>x</i> KANPAR, where <i>x</i> is T or R (shared or full RTE)
KFJ_PDCOL_COLLECT_LISTCAT	Collects <b>LISTCAT</b> command output, which lists all the data sets under the runtime environment qualifiers
KFJ_PDCOL_COLLECT_RTEDEF	Collects the runtime environment definition (RTEDEF) library
KFJ_PDCOL_COLLECT_EMBEDS	Collects the EMBEDS data set
KFJ_PDCOL_COLLECT_USERJCL	Collects the data set specified in the GBL_USER_JCL parameter
KFJ_PDCOL_COLLECT_WCONFIG	Collects the WCONFIG data set
KFJ_PDCOL_COLLECT_SNMP	Collects member RKANSAMU (KN3SNMP) or the data set specified in parameter KN3_SNMP_CONFIG_FILE
KFJ_PDCOL_COLLECT_STDENV	Collects the data sets mapped to the SDTENV DD statement
KFJ_PDCOL_COLLECT_SDADIR	Collects various information about the self-describing agent (SDA) directory, permission bits, contents, spawn_cmd.sh contents

Parameter	Description
KFJ_PDCOL_COLLECT_QA1	Collects QA1 files from the Tivoli Enterprise Monitoring Server started task  <div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> When producing output in the PAX (.pax) file format, the <b>PDCOLLECT</b> action writes the QA1 files to the z/OS® UNIX® System Services file system in hexadecimal print format. Additionally, the hex print data is converted to ASCII format and placed in the /converted subdirectory.</p> </div>
KFJ_PDCOL_COLLECT_OPSLOG	Collects data sets mapped to the RKMSLG DD statement
KFJ_PDCOL_COLLECT_MANIFEST	Collects component level information

**Default value**

For all flags except parameter **KFJ\_PDCOL\_COLLECT\_OPSLOG**: Y  
 For parameter **KFJ\_PDCOL\_COLLECT\_OPSLOG**: N

**Permissible values**

Y, N

**KFJ\_PDCOL\_DA\_INTERVAL**

This parameter specifies the interval (in seconds) for SDSF DA panel statistics collection.

**Description**

This parameter specifies the interval (in seconds) for the PDCOLLECT action to use for SDSF Display Active Users (DA) panel statistics collection.

**Default value**

10

**Permissible values**

Integer

**Related parameters**

[“KFJ\\_PDCOL\\_DA\\_SAMPLES” on page 310](#)

**KFJ\_PDCOL\_DA\_SAMPLES**

This parameter specifies the number of samples to take per interval for SDSF DA panel statistics collection.

**Description**

This parameter specifies the number of samples for the PDCOLLECT action to take per interval for SDSF Display Active Users (DA) panel statistics collection.

**Default value**

10

**Permissible values**

Integer

**Related parameters**

[“KFJ\\_PDCOL\\_DA\\_INTERVAL” on page 310](#)

**KFJ\_PDCOL\_HLQ**

This parameter specifies the high-level qualifier for the data sets that the **PDCOLLECT** action uses.

**Description**

This parameter specifies the high-level qualifier for the data sets that the **PDCOLLECT** action uses.

These data sets include the collection configuration data set (PDCLDEF) and generated output files in terse format (PDCOLPDS . TRS).

**Default value**

&SYSUID.KCIPDCOL

**Permissible values**

An MVS data set name, maximum length 31

## **KFJ\_PDCOL\_JOB\_FILTER**

This parameter specifies if job filtering is enabled for the **PDCOLLECT** action.

**Description**

This parameter specifies if job filtering is enabled for the **PDCOLLECT** action.

When job filtering is enabled, you can use the asterisk (\*) and percent sign (%) as wildcard characters in the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameter values to create the job filters.

**Default value**

Y

**Permissible values**

Y, N

**Related parameters**

[“KFJ\\_PDCOL\\_JOB\\_ID” on page 311](#)

[“KFJ\\_PDCOL\\_JOB\\_NAME” on page 311](#)

## **KFJ\_PDCOL\_JOB\_ID**

This parameter specifies the job ID of the started task for which the **PDCOLLECT** action collects diagnostic data.

**Description**

This parameter specifies the job ID (located in the SDSF job output queue) of the started task for which the **PDCOLLECT** action collects diagnostic data.

This parameter must be specified with parameter **KFJ\_PDCOL\_JOB\_NAME** and should point to the same job output.

**Default value**

When **KFJ\_PDCOL\_JOB\_FILTER** is set to N: JOBJID

When **KFJ\_PDCOL\_JOB\_FILTER** is set to Y: \*

**Permissible values**

Character string, maximum length 8

## **KFJ\_PDCOL\_JOB\_NAME**

This parameter specifies the job name of the started task for which the **PDCOLLECT** action collects diagnostic data.

**Description**

This parameter specifies the job name (located in the SDSF job output queue) of the started task for which the **PDCOLLECT** action collects diagnostic data.

This parameter must be specified with parameter **KFJ\_PDCOL\_JOB\_ID** and should point to the same job output.

**Default value**

JOBNAME

**Permissible values**

Character string, maximum length 8

**KFJ\_PDCOL\_JOB\_OUTPUT**

This parameter specifies the name of the data set containing the job output of the started task for which the **PDCOLLECT** action collects diagnostic data.

**Description**

This parameter specifies the name of the data set containing the job output of the OMEGAMON address space started task for which the **PDCOLLECT** action collects diagnostic data. Use this parameter if your OMEGAMON address space logs have been copied to a sequential data set.

**Note:** If parameters **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** are specified in the KCIVARS DD statement, parameter **KFJ\_PDCOL\_JOB\_OUTPUT** is ignored.

**Default value**

None

**Permissible values**

An MVS data set name, maximum length 44

**KFJ\_PDCOL\_RESTORE\_HLQ**

This parameter specifies the high-level qualifier for the **PDCOLLECT** action to use for **ADDRSSU** archive restore.

**Note:** This parameter is for use by IBM Software Support only.

**Description**

This parameter specifies the high-level qualifier for the **PDCOLLECT** action to use for **ADDRSSU** archive restore.

The **ADDRSSU** program uses this parameter value as the first qualifier for a rename option.

**Default value**

None

**Permissible values**

An MVS data set name, maximum length 8. The value must be a single qualifier.

**Related parameters**

[“KFJ\\_PDCOL\\_ADR\\_ARCHIVE” on page 309](#)

[“KFJ\\_PDCOLLECT\\_RESTORE” on page 314](#)

**KFJ\_PDCOLLECT\_ADDRSSU**

This parameter specifies that the **PDCOLLECT** action store the collected diagnostic data in an **ADDRSSU** archive.

**Description**

This parameter specifies that the **PDCOLLECT** action store the collected diagnostic data in an **ADDRSSU** archive.

The file **ADR.ARCHIVE** is generated.

This option requires the use of the **KCIALPHA** program.

**Default value**

N

**Permissible values**

Y, N

**KFJ\_PDCOLLECT\_COMPATIBILITY**

This parameter specifies that the **PDCOLLECT** action store the collected diagnostic data in a terse data set.

**Description**

This parameter specifies that the **PDCOLLECT** action store the collected diagnostic data in a terse data set.

With this option, the **PDCOLLECT** action uses the IEBCOPY UNLOAD function to package the diagnostic data.

The file *kfj\_pdcoll\_hlq.PDCOLPDS*.TRS is generated.

**Default value**

Y

**Permissible values**

Y, N

**KFJ\_PDCOLLECT\_PAX**

This parameter specifies that the **PDCOLLECT** action store the collected diagnostic data in a PAX archive.

**Description**

This parameter specifies that the **PDCOLLECT** action store the collected diagnostic data in a PAX archive.

This parameter must be specified with parameter **KFJ\_PDCOLLECT\_PAX\_DIR**.

The file *kcipdcol.pax* is generated.

**Default value**

N

**Permissible values**

Y, N

**Related parameters**

[KFJ\\_PDCOLLECT\\_PAX\\_DIR](#)

**KFJ\_PDCOLLECT\_PAX\_DIR**

This parameter specifies the **PDCOLLECT** action PAX archive path.

**Description**

This parameter specifies the **PDCOLLECT** action PAX archive path.

This value must be a valid z/OS® UNIX® System Services directory and is used as the root to create directory *kcipdcol/*.

This parameter must be specified with parameter **KFJ\_PDCOLLECT\_PAX**.

**Default value**

None

**Permissible values**

Character string, maximum length 50

**Related parameters**

[KFJ\\_PDCOLLECT\\_PAX](#)

## KFJ\_PDCOLLECT\_RESTORE

This parameter specifies that the **PDCOLLECT** action restore diagnostic data from a given archive.

**Note:** This parameter is for use by IBM Software Support only.

### Description

This parameter specifies that the **PDCOLLECT** action restore diagnostic data from a given archive.

### Default value

N

### Permissible values

Y, N

### Related parameters

[“KFJ\\_PDCOL\\_ADR\\_ARCHIVE” on page 309](#)

[“KFJ\\_PDCOL\\_RESTORE\\_HLQ” on page 312](#)

## KFJ\_SECURITY\_EXITS\_LIB

This parameter specifies the name of the security exits library for the runtime environment.

### Description

Use this parameter to specify the name of the data set that will contain the security exits for the runtime environment.

The default name for the security exits data set is *rte\_plib\_hilev.rte\_name*.SECEXITS. By using the **KFJ\_SECURITY\_EXITS\_LIB**, you can customize the name of the security exits data set.

The **KFJ\_SECURITY\_EXITS\_LIB** parameter works with the **CREATE** and **MIGRATE** actions only.

If the specified data set does not exist when the **CREATE** or **MIGRATE** action runs, Configuration Manager allocates the data set and populates it with the default security exit members. For the **MIGRATE** action, this library will contain the security exit members from the source PARMGEN runtime environment.

### Required or optional

Optional

### Default value

*rte\_plib\_hilev.rte\_name*.SECEXITS

### Permissible values

A valid data set name

### Example

TEST1.TST.DEMO.MYEXITS

### Location where the parameter value is stored

This value is not stored in a configuration member.

### Related parameters

[“RTE\\_X\\_SECURITY\\_EXIT\\_LIB” on page 291](#)

## KFJ\_SYSNAME

This parameter defines the system name (SYSNAME), LPAR name, or SYSSMFID to use in runtime environment configuration members.

**Note:** `KFJ_SYSNAME` is an internal parameter that automatically assigns the value of `SYSNAME`, but it is possible to specify a different value for `KFJ_SYSNAME` in the `KCIVARS DD` as well.

### Description

This parameter is specified in the `KCIVARS DD` statement of the JCL that runs the Configuration Manager jobs (for example, the `KFJJMCM` sample job in `TKANSAM`).

This parameter is used for the following purposes:

- Used with **OPTION MULTIPLE** to create (or migrate) multiple runtime environments in a single RTEDEF library. The `KFJ_SYSNAME` parameter value replaces `lpar` in member name `Kpp$lpar` for the generated members. For more information, see [“CREATE” on page 239](#) and [“MIGRATE” on page 261](#).
- Used for remote deployment to generate runtime environments on a single local system that can then be deployed to remote target systems. For more information, see [“Deploying remote runtime environments” on page 341](#).
- Used to assign the system name if you use a `SYSNAME` that is larger than 4 characters (5 - 8 characters) and the `SYSSMFID` is not assigned or the default `SYSSMFID` setting is not acceptable. Normally, a `SYSNAME` is 1 - 4 characters in length; however, if a system has a longer `SYSNAME`, you can use the `KFJ_SYSNAME` parameter to override it. The `KFJ_SYSNAME` parameter value replaces the value assigned to the `&SYSNAME` parameter when generating member names for the **DISCOVER**, **GENERATE**, and **MIGRATE** actions. The following rules apply:
  - If the value for `&SYSNAME` is 4 characters or less, the value for `KFJ_SYSNAME` equals the `&SYSNAME`.
  - If the value for `&SYSNAME` is 5 - 8 characters in length, the value for `KFJ_SYSNAME` equals the `&SYSSMFID` parameter, which is the SMF ID.
  - If the value for `&SYSSMFID` is not set explicitly, the system defaults to the CPU model number.

If the `KFJ_SYSNAME` value has been set for `&SYSSMFID`, warning message `KFJ00205W` is issued in the `KCIPRINT` member. This message states that you can provide (override) a custom `KFJ_SYSNAME` value (in `KCIVARS DD`) when running the Configuration Manager job. This action allows you to avoid duplicate member names in the RTEDEF data set, in case the `&SYSSMFID` is set to default to the CPU model number.

### KFJ\_USE\_EMBEDS

This parameter controls whether override embed members are enabled for the RTE.

### Description

A value of `Y` indicates that override embed members are enabled for the RTE.

For a **CREATE** or **MIGRATE** action, when this parameter is set to `Y`, Monitoring Configuration Manager creates a data set (the *embeds data set*) that contains the override embed parameters and values for the products that are installed in the respective CSI used to build the RTE. For the **MIGRATE** action, this library will contain the override embed parameters and values from the RTE being migrated from.

Unless specified otherwise in parameter `KFJ_EMBEDS_LIB`, the embeds data set name is `rte_plib_hilev.rte_name.EMBEDS`, where `rte_plib_hilev` is the high-level qualifier (HLQ) and `rte_name` is the name of the RTE specified on the action. By using this default naming convention, you can isolate the override embed values into the respective libraries per RTE.

**Note:** If the default or specified embeds data set exists when the **CREATE** or **MIGRATE** action runs, none of the existing members in it are changed or removed; only new members are added, which can occur if the CSI used to build the RTE has changed to add products.

During an initial **CREATE** or **MIGRATE** action when creating an RTE, when this parameter is set to `Y`, Monitoring Configuration Manager also defines the data set to the RTE using the `RTE_X_OVERRIDE_EMBEDS_LIB` parameter.

**Required or optional**

Optional

**Default value**

N

**Permissible values**

Y, N

**Related parameters**

KFJ\_EMBEDS\_LIB

RTE\_X\_OVERRIDE\_EMBEDS\_LIB

**Target copy (TRG) parameters**

The target copy parameters provide configuration settings for managing copies of SMP/E target libraries.

**TRG\_COPY\_HILEV**

Non-VSAM high-level qualifier for SMP/E target library copy

**Description**

This field specifies the high-level qualifier to be used when allocating the SMP/E target copy non-VSAM data sets. The names of these data sets will be generated by appending the appropriate suffix to this field.

**Required or optional**

Optional

**Default value**

%RTE\_PLIB\_HILEV%

**TRG\_COPY\_MGMTCLAS**

MGMTCLAS for non-VSAM libraries for SMP/E target library copy

**Description**

This field specifies the SMS management class to be used when allocating the SMP/E target copy non-VSAM data sets.

This field is required if the data sets are not to be SMS-managed. Leave this field blank if your installation does not use the SMS MGMTCLAS parameter or it is optional.

**Required or optional**

Optional

**Default value**

%RTE\_SMS\_MGMTCLAS%

**TRG\_COPY\_NAME**

SMP/E target library copy name

**Description**

This field specifies the name of the member in the RTEDEF library for SMP/E target copy settings. This member is required when using Configuration Manager to create and maintain an SMP/E target copy.

**Required or optional**

Optional

**Default value**

None

## TRG\_COPY\_STORCLAS

STORCLAS for non-VSAM libraries for SMP/E target library copy

### Description

This field specifies the SMS storage class to be used when allocating the SMP/E target copy non-VSAM data sets.

This field is required if the data sets are not to be SMS-managed. Leave this field blank if your installation does not use the SMS STORCLAS parameter or it is optional.

### Required or optional

Optional

### Default value

%RTE\_SMS\_STORCLAS%

## TRG\_COPY\_TKANJAR\_PATH

z/OS UNIX System Services directory for SMP/E target copy

### Description

This field specifies the z/OS UNIX directory that will be used as a copy for the SMP/E installation jobs.

This field specifies the directory for a copy of SMP/E TKANJAR files, which is needed for OMEGAMON for CICS TG on z/OS (KGW) and OMEGAMON for JVM (KJJ).

## TRG\_COPY\_TKAYHFS\_PATH

This parameter specifies the z/OS UNIX System Services directory for the SMP/E TKAYHFS installation directory copy.

### Description

This field specifies the z/OS UNIX directory that will be used as a copy for the SMP/E TKAYHFS installation directory.

This field specifies the directory for a copy of SMP/E TKAYHFS files, which is needed for OMEGAMON Data Provider (KAY).

### Default value

*/var/rtehome/<trg\_copy\_name>/kay*

### Permissible values

Character string, maximum length 44

## TRG\_COPY\_UNIT

Unit for non-VSAM libraries for SMP/E target library copy

### Description

This field specifies the unit name to be used when allocating the SMP/E target copy non-VSAM data sets.

This field is required if the data sets are not to be SMS-managed. Leave this field blank if your installation does not use the unit name or it is optional.

### Required or optional

Optional

### Default value

%RTE\_SMS\_UNIT%

## TRG\_COPY\_VOLUME

VOLSER for non-VSAM libraries for SMP/E target library copy

### Description

This field specifies the volume serial numbers to be used when allocating the SMP/E target copy non-VSAM data sets.

This field is required if the data sets are not to be SMS-managed. Leave this field blank if your installation does not use the volume serial number or it is optional.

### Required or optional

Optional

### Default value

%RTE\_SMS\_VOLUME%

## Sparse parameter tables: The first row sets the default values for subsequent rows

For parameters that are arranged in tables, IBM Z® Monitoring Configuration Manager uses the first row to set the defaults for subsequent rows.

You can use this behavior to specify “sparse” parameter tables. You only need to specify parameters whose values differ from the first row. Sparse parameter tables are especially useful for configuring the Db2® monitoring agent.

As with PARMGEN, you can also specify complete parameter tables: every parameter in every row.

### Example: Db2® profile configuration

The following example shows a sparse parameter table that configures three Db2® profiles (PROD, TEST, and DEV):

```
KD2_PF          BEGIN
KD2_PF01_ROW    01
KD2_PF01_PROFID "PROD"
* Configure and autostart Near-Term History (NTH)
KD2_PF01_HIS_START Y
* Store NTH data to VSAM data sets for e3270UI thread history
KD2_PF01_HIS_STORE THVSAM
KD2_PF01_THRDHIS_LOG_NUM 10
* Storage units
KD2_PF01_HIS_VSAM_SU  CYLS
KD2_PF01_HIS_VSAM_MB  50

KD2_PF02_ROW    02
KD2_PF02_PROFID "TEST"
* TEST requires fewer resources for NTH than PROD
KD2_PF02_THRDHIS_LOG_NUM 3
KD2_PF02_HIS_VSAM_MB  10

KD2_PF03_ROW    03
KD2_PF03_PROFID "DEV"
* No NTH in DEV
KD2_PF03_HIS_START N

KD2_PF          END
```

The first row configures the PROD profile and sets the default values for subsequent rows (profiles).

The TEST profile omits the following parameters, falling back to the values from the first row:

```
KD2_PFnn_HIS_START
KD2_PFnn_HIS_STORE
KD2_PFnn_HIS_VSAM_SU
```

The TEST profile sets different, lower values than PROD for the following parameters, because TEST requires fewer resources for Near-Term History:

```
KD2_PF02_THRDHIS_LOG_NUM
```

## KD2\_PF02\_HIS\_VSAM\_MB

The DEV profile does not configure Near-Term History.

### Example: Db2® subsystem configuration

The following example shows a sparse parameter table that configures the Db2® monitoring agent to monitor three Db2® subsystems (DB2P, DB2T, and DB2D):

```
KD2_DB          BEGIN

KD2_DB01_ROW    01
KD2_DB01_DB2_SSID "DB2P"
KD2_DB01_DB2_DESCRIPTION "PROD Db2 subsystem"
KD2_DB01_DB2_PROFID "PROD"
KD2_DB01_DB2_VER "12"
KD2_DB01_DB2_SYSNAME "ZOSP"
KD2_DB01_DB2_DS_GROUP "N"
KD2_DB01_DB2_MONITOR_START "Y"
KD2_DB01_DB2_PORT_NUM "2000" * OMEGAMON Db2 PE Server TCP/IP port number
KD2_DB01_DB2_LOADLIB "DSN.VCR1M0.SDSNLOAD"
KD2_DB01_DB2_DSNTIAD "DSNTIAD"
KD2_DB01_DB2_RUNLIB "DSN.VCR1M0.RUNLIB.LOAD"

KD2_DB02_ROW    02
KD2_DB02_DB2_SSID "DB2T"
KD2_DB02_DB2_DESCRIPTION "TEST Db2 subsystem"
KD2_DB02_DB2_PROFID "TEST"
KD2_DB02_DB2_SYSNAME "ZOST"
KD2_DB02_DB2_PORT_NUM "2001"

KD2_DB03_ROW    03
KD2_DB03_DB2_SSID "DB2D"
KD2_DB03_DB2_DESCRIPTION "DEVT Db2 subsystem"
KD2_DB03_DB2_PROFID "DEVT"
KD2_DB03_DB2_SYSNAME "ZOSD"
KD2_DB03_DB2_PORT_NUM "2002"
KD2_DB03_DB2_LOADLIB "DSN.VC10.SDSNLOAD"
KD2_DB03_DB2_RUNLIB "DSN.VC10.RUNLIB.LOAD"

KD2_DB          END
```

The first row configures the agent to monitor the DB2P subsystem and sets the default values for subsequent rows (subsystems).

The second row falls back to the values set by the first row for Db2® version, LOADLIB, and RUNLIB, but sets its own values for the profile, system (LPAR) name, and port number.

The third row specifies its own values for LOADLIB and RUNLIB.

## Runtime environment definition (RTEDEF) library

A runtime environment definition is a set of parameters. Parameters are stored in a runtime environment definition (RTEDEF) library. The set of parameters for each runtime environment is organized into several RTEDEF members.

The data set name of the RTEDEF library consists of the high-level qualifiers that you specify to IBM Z® Monitoring Configuration Manager in the **RTE\_PLIB\_HILEV** workflow variable in the KCIVARS input data set, followed by the fixed low-level qualifier RTEDEF:

```
rte_plib_hilev.RTEDEF
```

You can allocate the RTEDEF library yourself or you can use the **CREATE** action to allocate it and populate it with [initial members](#) for you.

An RTEDEF library can contain multiple runtime environment definitions. A single RTEDEF library can contain all of the runtime environment definitions for a sysplex. Or you can choose to store each runtime environment definition in a separate RTEDEF library.

If you are going to set up a High Availability TEMS (HA TEMS), make sure there is only one runtime environment defined in the RTEDEF (that is, the one used for the HA TEMS).

RTEDEF library members are also known as *configuration profile* members.

## Runtime environment definition library members

RTEDEF library members follow a naming convention that identifies the contents of the member and whether the member applies to a specific LPAR or to all LPARs.

Use the naming convention described in the following table to store parameters in the correct members. In the LPARs column of the following table, *Current* means the LPAR on which the **GENERATE** action is performed.

Table 43: RTEDEF member naming convention			
Member name	Parameters	LPARs	Description
<i>rte_name</i>	<b>RTE_* CONFIGURE_*</b>	All	Runtime environment configuration profile. <i>rte_name</i> matches the value of the <b>RTE_NAME</b> workflow variable in the KCIVARS data set of the job that performs the Monitoring Configuration Manager action.
KC5@ <i>lpar</i> KD5@ <i>lpar</i> KI5@ <i>lpar</i> KN3@ <i>lpar</i>	<b>Kpp_*</b>	Current	LPAR-specific product configuration profile created by the <b>DISCOVER</b> action.  <b>Note:</b> The <b>DISCOVER</b> action writes a comment member, <i>Kpp#lpar</i> , if a <i>Kpp@lpar</i> member already exists. For more information, see <a href="#">“Members created by the DISCOVER action” on page 245.</a>
SYS@ <i>lpar</i>	Symbols	Current	LPAR-specific system symbols and KCIPARSE extracted variables found by the <b>DISCOVER</b> action.  <b>Note:</b> The <b>DISCOVER</b> action writes a comment member, <i>SYS#lpar</i> , if a <i>SYS@lpar</i> member already exists. For more information, see <a href="#">“Members created by the DISCOVER action” on page 245.</a>
Kpp\$PARM	<b>Kpp_*</b>	All	Product configuration profile, where <i>pp</i> is the product code. For the list of supported code values, see <a href="#">“Products supported by Configuration Manager” on page 214.</a>
Kpp\$lpar	<b>Kpp_*</b>	Current	LPAR-specific product configuration profile, where <i>pp</i> is the product code. For the list of supported code values, see <a href="#">“Products supported by Configuration Manager” on page 214.</a>
GBL\$PARM	<b>GBL_*</b>	All	Global configuration profile.
GBL\$lpar	<b>GBL_*</b>	Current	LPAR-specific global configuration profile.
VAR\$GLOB	Variables	All	Variables configuration profile. For more information, see <a href="#">“Variables in parameter values” on page 334.</a>
VAR\$lpar	Variables	Current	LPAR-specific variables configuration profile. For more information, see <a href="#">“Variables in parameter values” on page 334.</a>
PCK\$PARM	<b>KFJ_LOCAL_*</b>	All	Configuration profile created by the <b>PACKAGE</b> action that contains data set high-level qualifiers and other settings for deploying to a target system. For more information, see <a href="#">“Special considerations for SYSPLEX rollout” on page 323.</a>

Member name	Parameters	LPARs	Description
PCK\$ <i>lpar</i>	KFJ_LOCAL_*	Current	LPAR-specific configuration profile created by the <b>PACKAGE</b> action that contains data set high-level qualifiers and other settings for deploying to a target system. For more information, see “ <a href="#">Special considerations for SYSPLEX rollout</a> ” on page 323.
<i>trg_copy_name</i>	TRG_COPY_* GBL_* CONFIGURE_*	All	Target copy configuration profile. <i>trg_copy_name</i> matches the value of the <b>TRG_COPY_NAME</b> workflow variable in the KCIVARS DD statement of the job that performs the Monitoring Configuration Manager action with option <b>TRGCOPY</b> .

The following figure illustrates an example of the RTEDEF library member naming and hierarchy. Depending on your configuration, there might be more or fewer members in your RTEDEF. The complete list of members is provided in the previous [table](#).

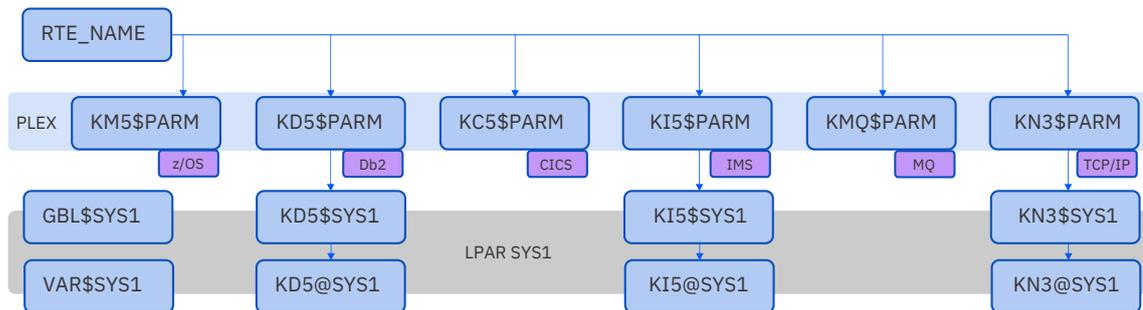


Figure 52: Example runtime environment definition library member naming and hierarchy

**Note:**

If a product has parameters with different prefixes, use the *Kpp* from the corresponding **CONFIGURE\_\*** parameter as the member name prefix for all the parameters. For example:

- Store all Db2® agent parameters, **KD2\_\*** and **KD5\_\***, in KD5\* members, to match the **CONFIGURE\_DB2\_AGENT\_KD5** parameter.
- Store all **KC2\_\*** and **KC5\_\*** parameters in KC5\* members.
- Store all **KI2\_\*** and **KI5\_\*** parameters in KI5\* members.
- Store all **KDF\_\*** and **KS3\_\*** parameters in KS3\* members.

## Concatenation order of runtime environment definition library members

The **GENERATE** action builds the set of parameters for a runtime environment by concatenating RTEDEF members in a well-defined order.

At a high level, the order in which the parameters are read can be categorized as follows:

- System symbols and KCIPARSE-extracted variables found by the **DISCOVER** action
- Target copy (if option **TRGCOPY** is specified)
- [Variables](#) (if system variables are enabled for the runtime environment)
- Runtime environment
- Product
- Global
- Package (if remote deployment applies)

The following table provides the specific order (by RTEDEF member) in which the parameters are read. In this list, parameters that are set in member `SYS@lpar` are read first and parameters that are set in member `PCK$lpar` are read last. In the following table, `lpar` identifies the LPAR on which the **GENERATE** action runs.

**Important:** If a parameter is set more than once, the last value that is read is used.

Table 44: Read order of runtime environment parameters		
Order position	RTEDEF member	Notes
1	<code>SYS@lpar</code>	The <code>SYS@lpar</code> member is always processed first, even if the system variables flag ( <code>RTE_SYSV_SYSVAR_FLAG</code> ) is disabled.
2	<code>trg_copy_name</code>	The <code>trg_copy_name</code> member is processed only if option <b>TRGCOPY</b> is specified.
3	<code>VAR\$GLOB</code>	The <code>VAR\$GLOB</code> member is processed only if the system variables flag ( <code>RTE_SYSV_SYSVAR_FLAG</code> ) is enabled.
4	<code>VAR\$lpar</code>	The <code>VAR\$lpar</code> member is processed only if the system variables flag ( <code>RTE_SYSV_SYSVAR_FLAG</code> ) is enabled.
5	<code>rte_name</code>	
6	<code>Kpp@lpar</code>	For KC5, KI5, KD5, and KN3 only
7	<code>Kpp\$PARM</code>	
8	<code>Kpp\$lpar</code>	
9	<code>GBL\$PARM</code>	
10	<code>GBL\$lpar</code>	
11	<code>PCK\$PARM</code>	The <code>PCK\$PARM</code> member is processed only if the runtime environment is designed for <u>remote deployment</u> and parameter <code>KFJ_LOCAL_PLIB_HILEV</code> is specified in the <code>KCIVARS DD</code> statement.
12	<code>PCK\$lpar</code>	The <code>PCK\$lpar</code> member is processed only if the runtime environment is designed for <u>remote deployment</u> and parameter <code>KFJ_LOCAL_PLIB_HILEV</code> is specified in the <code>KCIVARS DD</code> statement.

**Tip:** After you run the **GENERATE** action, you can view an ordered list of the RTEDEF library members that the action uses. For more information, see [“Parameter values used” on page 276](#).

## Initial runtime environment library members

The **CREATE** action populates the RTEDEF library with an initial set of configuration profile members for a basic runtime environment.

There are hundreds of OMEGAMON parameters. However, to configure a runtime environment that uses basic functions, you only need to specify the few dozen parameters in these initial members. All other parameters use their default values.

Edit the members to specify appropriate parameters for your runtime environment.

### Characteristics of the runtime environment defined by the initial members

The parameters in the initial members define a runtime environment with the following characteristics:

Table 45: Characteristics of the initial runtime environment definition							
Characteristic	Defined by these parameters						
Static hub monitoring server.	<table border="0"> <tr> <td>KDS_TEMS_TYPE</td> <td>HUB</td> </tr> <tr> <td colspan="2">Default parameter value (not specified in the initial set of parameters):</td> </tr> <tr> <td>KDS_TEMS_HA_TYPE</td> <td>none</td> </tr> </table>	KDS_TEMS_TYPE	HUB	Default parameter value (not specified in the initial set of parameters):		KDS_TEMS_HA_TYPE	none
KDS_TEMS_TYPE	HUB						
Default parameter value (not specified in the initial set of parameters):							
KDS_TEMS_HA_TYPE	none						
All <i>installed</i> components configured. The <b>CREATE</b> action detects which component products, such as monitoring agents, are installed and sets the corresponding <b>CONFIGURE_*</b> parameters to Y.	<table border="0"> <tr> <td>CONFIGURE_*</td> <td>Y</td> </tr> </table>	CONFIGURE_*	Y				
CONFIGURE_*	Y						
Runtime members shared with target libraries. Rather than being a full stand-alone set, the runtime members refer to some SMP/E installation target libraries (or, more typically, a copy that you have created of those target libraries).	<p>Default parameter values (not specified in the initial set of parameters):</p> <table border="0"> <tr> <td><u>"RTE_TYPE" on page 291</u></td> <td>SHARING</td> </tr> <tr> <td>RTE_SHARE</td> <td>SMP</td> </tr> </table>	<u>"RTE_TYPE" on page 291</u>	SHARING	RTE_SHARE	SMP		
<u>"RTE_TYPE" on page 291</u>	SHARING						
RTE_SHARE	SMP						

### The initial members include only a few product-specific members

Only a few component products require you to specify parameter values for their basic functions. Most work out-of-the-box using default parameter values.

The **CREATE** action creates *Kpp\$*PARM members only for the following components, and only if they are installed:

- Monitoring server (*KDS\$*PARM)
- CICS® TG monitoring agent (*KGW\$*PARM)

The **CREATE** action creates these members based only on which components are installed. The **CREATE** action is not sensitive to **CONFIGURE\_\*** parameters in an existing RTEDEF (*rte\_name*) member. The **CREATE** action neither reads nor overwrites existing RTEDEF members. For example, if the CICS® TG monitoring agent is installed in the target libraries, then the **CREATE** action creates an RTEDEF (*KGW\$*PARM) member, even if an RTEDEF (*rte\_name*) member already exists and specifies **CONFIGURE\_CICS\_TG\_KGW** N.

To set parameter values for other products, you must create the corresponding product-specific *Kpp\** members.

### Special considerations for SYSPLEX rollout

Specify an additional parameter, **KFJ\_LOCAL\_PLIB\_HILEV**, in your KCIVARS DD statement when running the **CREATE** action to have the RTEDEF created using the value in **KFJ\_LOCAL\_PLIB\_HILEV**.

When this parameter is specified, the generated *kfj\_local\_plib\_hilev*.RTEDEF data set will contain an additional member called *PCK\$*PARM. This member allows locally generated runtime environment data sets to have a different high-level qualifier than the data sets that will be used on the deployment (target) system.

Just like for other members in the RTEDEF, there is a SYSPLEX-wide member called RTEDEF (*PCK\$*PARM) and an LPAR-specific member, RTEDEF (*PCK\$*LPAR), supported. The **CREATE** action will generate the RTEDEF (*PCK\$*PARM) member.

If any of the parameters in *PCK\$*PARM are not defined, Configuration Manager will use the **KFJ\_LOCAL\_PLIB\_HILEV** parameter to generate default values for all of the high-level qualifier parameters. For the remaining parameters, the target runtime environment parameter will be used as the default.

The target runtime environment parameter will be used to allocate the respective data sets.

For more information about the *PCK\$*PARM member, see ["RTEDEF\(PCK\\$PARM\)" on page 326](#).

### Using an SMP/E target copy

Specifying the **CREATE** action with option **TRGCOPY** creates member RTEDEF (*trg\_copy\_name*). This member contains source and destination information used to create and maintain a copy of your SMP/E target libraries.

This member is used only when the **CREATE** or **GENERATE** action is run using option **TRG COPY**. For more information, see “[RTEDEF\(trg\\_copy\\_name\)](#)” on page 328 and “[Using SMP/E target library copies](#)” on page 352.

## RTEDEF(*rte\_name*)

The RTEDEF(*rte\_name*) member is the runtime environment configuration profile. This member contains parameters with the prefixes **RTE** and **CONFIGURE**.

Figure 53: Initial RTEDEF(*rte\_name*) member created by the **CREATE** action

RTE_NAME	<rte_name>
RTE_PLIB_HILEV	<rte_plib_hilev>
RTE_SECURITY_USER_LOGON	NONE
RTE_SECURITY_FOLD_PASSWORD_FLAG	Y
RTE_SECURITY_CLASS	""
RTE_X_SECURITY_EXIT_LIB	<rte_plib_hilev>.<rte_name>.SECEXITS
RTE_TEMS_NAME_NODEID	<rte_name>:TEMS
RTE_TEMS_TRANSPORT_MODE	HTTPS
RTE_COMM_PROTOCOLn	IPPIPE
RTE_TCP_HOST	<sysiphostname>
RTE_TCP_PORT_NUM	1918
RTE_VTAM_APPLID_PREFIX	OM<sysclone>
RTE_STC_PREFIX	OMEG
RTE_USS_RTEDIR	"/var/rtehome"
CONFIGURE_TEMS_KDS	Y * TEMS
CONFIGURE_E3270UI_KOB	Y * Enhanced 3270
CONFIGURE_CICS_KC5	Y * CICS TS
CONFIGURE_CICS_TG_KGW	Y * CICS TG
CONFIGURE_DB2_AGENT_KD5	Y * Db2
CONFIGURE_IMS_KI5	Y * IMS
CONFIGURE_JVM_KJJ	Y * JVM
CONFIGURE_ZOS_KM5	Y * z/OS
CONFIGURE_MESSAGING_KMQ	Y * MQ
CONFIGURE_MESSAGING_KQI	Y * Integration Bus
CONFIGURE_NETVIEW_KNA	Y * Netview
CONFIGURE_MFN_KN3	Y * Network
CONFIGURE_STORAGE_KS3	Y * Storage
CONFIGURE_OMEGAVIEW_KWO	Y * Integration Monitor
CONFIGURE_ITCAMAD_KYN	Y * ITCAM for Applications
CONFIGURE_ACM_KRN	Y * Advanced Catalog Mgmt
CONFIGURE_ARD_KRH	Y * Advanced Rpt and Mgmt
CONFIGURE_AAD_KRG	Y * Advanced Audit
CONFIGURE_AAM_KRJ	Y * Advanced Alloc Mgmt
CONFIGURE_ATAM_KRK	Y * Automated Tape Alloc
CONFIGURE_ABR_KRV	Y * Advanced Backup and Rec
CONFIGURE_ODP_KAY	Y * Data Provider

**Note:** RTE\_X\_OVERRIDE\_EMBEDS\_LIB is included if you specify **KFJ\_USE\_EMBEDS** set to Y.

### Non-default values

The values of the following parameters in this initial member are different than the default values:

#### RTE\_TEMS\_NAME\_NODEID

This parameter sets the node ID of the monitoring server that is configured in this runtime environment. The only difference between the value in this initial member and the default value: the default value ends in CMS rather than TEMS. Given the related parameter names, TEMS is a more intuitive value.

#### RTE\_VTAM\_APPLID\_PREFIX

LPARs in a sysplex might have their own instances of the same VTAM® application. The fixed default VTAM® applid prefix, CTD, does not help to identify the LPAR to which each instance belongs. This initial member sets the value to OM<sysclone>, where:

- OM is an abbreviation of OMEGAMON®.
- <sysclone> is the 1- or 2-character value of the z/OS® static system symbol **SYSCLONE**. **SYSCLONE** is shorthand notation for the system (LPAR) name.

#### RTE\_STC\_PREFIX

The default started task prefix is IBM.  
This initial member sets the value to OMEG (an abbreviation of OMEGAMON®).

## Significant default values

Some characteristics of the runtime environment configured using this initial member are determined by the following default parameter values:

```
RTE_TYPE          SHARING
RTE_SHARE         SMP
```

## RTEDEF (KDS\$PARM)

The RTEDEF (KDS\$PARM) member contains parameters that configure the monitoring server. These parameters have the prefix **KDS**.

*Figure 54: Initial RTEDEF (KDS\$PARM) member created by the CREATE action*

```
* Tivoli Enterprise Monitoring Server
KDS_TEMS_TYPE     HUB
```

## RTEDEF (KGW\$PARM)

The RTEDEF (KDS\$PARM) member contains parameters that configure the CICS® Transaction Gateway monitoring agent. These parameters have the prefix **KGW**.

*Figure 55: Initial RTEDEF (KGW\$PARM) member created by the CREATE action*

```
* CICS Transaction Gateway

KGW_SA           BEGIN           * Table begin *
KGW_SA01_ROW     01
KGW_SA01_CTG_DAEMON_STC CTGPROC * Sample CTG Daemon *
KGW_SA01_CTG_DAEMON_PORT_NUM 2980 * 00000-65535
KGW_SA01_CTG_DAEMON_HOST LOCALHOST
KGW_SA01_SAPI_CLIENT_CTGTRACE 0 * 0-4
* END KGW_SA01 row 1 (add more rows as needed!)
KGW_SA           END           * Table end *
```

## RTEDEF (GBL\$PARM)

The RTEDEF (GBL\$PARM) member is the global configuration profile. This member contains global parameters. These parameters have the prefix **GBL**.

The **CREATE** action only populates the RTEDEF (GBL\$PARM) member with parameters that are relevant to the monitoring agents that are installed. For example:

*Figure 56: Initial RTEDEF (GBL\$PARM) member created by the CREATE action*

```
* Global parameters (used by installed products)
* High-level qualifier of SMP/E target libraries
GBL_TARGET_HILEV "<HLQs of KCIFLOW dsname of CREATE action>"
* Java home directory (KYN, KDS)
GBL_HFS_JAVA_DIR1 "/usr/lpp/java/IBM/J8.0_64"
* SMP/E target directory containing TKANJAR files (KGW, KJJ)
GBL_USS_TKANJAR_PATH "/usr/lpp/kan/bin/IBM"
* SMP/E target directory containing TKAYHFS files (KAY)
GBL_USS_TKAYHFS_PATH "/usr/lpp/omdp"
* ICSF load library containing CSNB* modules for password encryption
* (KS3, KI5)
GBL_DSN_CSF_SCSFMODE0 "CSF.SCSFMODE0"
* Db2 libraries (KD5)
GBL_DSN_DB2_RUNLIB_V12 "DSN.VCR1M0.RUNLIB.LOAD"
GBL_DSN_DB2_LOADLIB_V12 "DSN.VCR1M0.SDSNLOAD"
GBL_DSN_DB2_DSNEEXIT "DSN.VCR1M0.DSNEEXIT"
```

```

* CICS Transaction Gateway (KGW)
GBL_DSN_CICS_CTG_DLL "SYS1.SCTGDLL"

* IMS libraries (KI5)
GBL_DSN_IMS_RESLIB "IMS.SDFSRESL"
GBL_DSN_IMS_SCEXLINK "IMS.SCEXLINK"
GBL_DSN_IMS_SFUNLINK "IMS.SFUNLINK"

* MQ and Integration Broker (KMQ, KQI)
GBL_DSN_WMQ_SCSQANLE "CSQ.V9R0M0.SCSQANLE"
GBL_DSN_WMQ_SCSQAUTH "CSQ.V9R0M0.SCSQAUTH"

* Netview CNMLINK library
GBL_DSN_NETVIEW_CNMLINK "NETVIEW.VNRNMN.CNMLINK"

```

## GBL\_TARGET\_HILEV

The **CREATE** action sets the **GBL\_TARGET\_HILEV** parameter to the high-level qualifiers of the data set name specified by the **KCIFLOW DD** statement in the job step that performs the **CREATE** action.

Combined with the default parameter values **RTE\_TYPE** SHARING and **RTE\_SHARE** SMP, this value configures the runtime environment to share the same target library that was used to perform the **CREATE** action.

## RTEDEF (PCK\$PARM)

The RTEDEF (PCK\$PARM) member contains parameters that allow remote deployment of a runtime environment.

This member essentially specifies a mapping. A shadow value is specified that represents the value used to generate the runtime environment data sets on the local system (that is, the configuration LPAR). Note that this is the only place this mapping is done. All other values in the RTEDEF members should be specified using the attributes and high-level qualifiers of the target system (that is, the system that the runtime environment will be deployed to).

The list of **\*\_HILEV** parameters, along with **RTE\_USS\_RTEDIR** and **GBL\_USS\_TKANJAR\_PATH**, are the only parameters supported for this mapping.

**Note:** If the **GENERATE** action detects that non-supported high-level qualifiers are being used in the RTEDEF, an error message will be displayed in KCIPRINT indicating incompatible parameters, and the **GENERATE** action workflow stops.

The RTEDEF (PCK\$PARM) member contains the values described in the following table:

Parameter in member PCK\$PARM or PCK\$lpar	Target runtime environment parameter mapped in RTEDEF (rte_name)	Description
KFJ_LOCAL_PLIB_HILEV	RTE_PLIB_HILEV	
KFJ_LOCAL_HILEV	RTE_HILEV	
KFJ_LOCAL_VSAM_HILEV	RTE_VSAM_HILEV	Default VSAM high-level qualifier to be used when allocating VSAM data sets
KFJ_LOCAL_PDS_HILEV	RTE_PDS_HILEV	Default PDS high-level qualifier to be used to allocate PDS V1 data sets (if needed)
KFJ_LOCAL_TARGET_HILEV	GBL_TARGET_HILEV	SMP/E target high-level qualifier found in RTEDEF (GBL\$PARM/GBL\$lpar)

Parameter in member PCK\$PARM or PCK\$lpar	Target runtime environment parameter mapped in RTEDEF(rte_name)	Description
KFJ_LOCAL_USS_RTEDIR	RTE_USS_RTEDIR	Runtime environment z/OS® UNIX® System Services root path used by Configuration Manager to save all z/OS® UNIX®-related artifacts
KFJ_LOCAL_USS_TKANJAR_PATH	GBL_USS_TKANJAR_PATH	SMP/E target directory containing TKANJAR files
KFJ_LOCAL_USS_TKAYHFS_PATH	GBL_USS_TKAYHFS_PATH	SMP/E TKAYHFS ddname install directory
KFJ_LOCAL_SMS_VOLUME	RTE_SMS_VOLUME	To support non-SMS environments
KFJ_LOCAL_SMS_VSAM_VOLUME	RTE_SMS_VSAM_VOLUME	To support non-SMS environments
KFJ_LOCAL_SMS_UNIT	RTE_SMS_UNIT	To support non-SMS environments
KFJ_LOCAL_SMS_STORCLAS	RTE_SMS_STORCLAS	
KFJ_LOCAL_SMS_VSAM_STORCLAS	RTE_SMS_VSAM_STORCLAS	
KFJ_LOCAL_SMS_MGMTCLAS	RTE_SMS_MGMTCLAS	
KFJ_LOCAL_SMS_VSAM_MGMTCLAS	RTE_SMS_VSAM_MGMTCLAS	

### Sample member RTEDEF(PCK\$PARM)

The sample member, RTEDEF (PCK\$PARM), is shown below.

Figure 57: Example of PCK\$PARM

```

* Local RTE parameters
KFJ_LOCAL_PLIB_HILEV          TSOUID.LOCAL
KFJ_LOCAL_HILEV
KFJ_LOCAL_VSAM_HILEV
KFJ_LOCAL_PDS_HILEV

* High-level qualifier of local SMP/E target libraries
KFJ_LOCAL_TARGET_HILEV       "MONSUITE"

* Path to local z/OS UNIX files
KFJ_LOCAL_USS_RTEDIR         "/var/rtehome"

* Local SMP/E target directory containing TKANJAR files (KGW, KJJ)
KFJ_LOCAL_USS_TKANJAR_PATH   "/usr/lpp/kan/bin/IBM"

* Local SMP/E directory containing TKAYHFS files (KAY)
KFJ_LOCAL_USS_TKAYHFS_PATH   "/usr/lpp/omdp"

* SMS Parameters
KFJ_LOCAL_SMS_VOLUME
KFJ_LOCAL_SMS_VSAM_VOLUME
KFJ_LOCAL_SMS_UNIT
KFJ_LOCAL_SMS_STORCLAS
KFJ_LOCAL_SMS_VSAM_STORCLAS
KFJ_LOCAL_SMS_MGMTCLAS
KFJ_LOCAL_SMS_VSAM_MGMTCLAS

```

### Example

The **RTE\_PLIB\_HILEV** value in RTEDEF (MYRTE) is as follows:

```

RTE_PLIB_HILEV              TDCIT.REG

```

Specifying **KFJ\_LOCAL\_PLIB\_HILEV** with a value of SYS3.PREGEN in RTEDEF (PCK\$PARM) will allocate the data sets that will use a value of **RTE\_PLIB\_HILEV** using SYS3.PREGEN instead of TDCIT.REG. When using the

**DEPLOY** action after having run the **PACKAGE** action and transferring the dump data sets to the target system, the original value as specified in RTEDEF (MYRTE), that is TDCIT.REG in this specific example, will be used to restore the data sets.

## RTEDEF (*trg\_copy\_name*)

The RTEDEF (*trg\_copy\_name*) member is the SMP/E target copy configuration profile. This member contains parameters with the prefixes **GBL**, **CONFIGURE**, and **TRG**.

Figure 58: Initial RTEDEF (*trg\_copy\_name*) member created by the **CREATE** action with option **TRGCOPI**

```
* High-level qualifier of SMP/E target libraries
GBL_TARGET_HILEV          "<HLQs of KCIFLOW dsname of CREATE action>"

* SMP/E target directory containing TKANJAR files (KGW, KJJ)
GBL_USS_TKANJAR_PATH      "/usr/lpp/kan/bin/IBM"

TRG_COPY_NAME             <trg_copy_name>
* High-level qualifier of the copy of SMP/E target libraries
TRG_COPY_HILEV            <trg_copy_hilev>
* Directory for a copy of SMP/E TKANJAR files (KGW, KJJ)
TRG_COPY_TKANJAR_PATH     "/var/rtehome/<trg_copy_name>/kan/bin/IBM"
* Directory for a copy of SMP/E TKAYHFS files (KAY)
TRG_COPY_TKAYHFS_PATH     "/var/rtehome/<trg_copy_name>/kay"

CONFIGURE_TEMS_KDS        Y * TEMS
CONFIGURE_E3270UI_KOB     Y * Enhanced 3270
CONFIGURE_CICS_KC5        Y * CICS TS
CONFIGURE_CICS_TG_KGW     Y * CICS TG
CONFIGURE_DB2_AGENT_KD5   Y * Db2
CONFIGURE_IMS_KI5         Y * IMS
CONFIGURE_JVM_KJJ         Y * JVM
CONFIGURE_ZOS_KM5         Y * z/OS
CONFIGURE_MESSAGING_KMQ   Y * MQ
CONFIGURE_MESSAGING_KQI   Y * Integration Bus
CONFIGURE_NETVIEW_KNA     Y * Netview
CONFIGURE_MFN_KN3         Y * Network
CONFIGURE_STORAGE_KS3     Y * Storage
CONFIGURE_OMEGAVIEW_KWO   Y * Integration Monitor
CONFIGURE_ITCAMAD_KYN     Y * ITCAM for Applications
CONFIGURE_ACM_KRN         Y * Advanced Catalog Mgmt
CONFIGURE_ARD_KRH         Y * Advanced Rpt and Mgmt
CONFIGURE_AAD_KRG         Y * Advanced Audit
CONFIGURE_AAM_KRJ         Y * Advanced Alloc Mgmt
CONFIGURE_ATAM_KRK        Y * Automated Tape Alloc
CONFIGURE_ABR_KRV         Y * Advanced Backup and Rec
CONFIGURE_ODP_KAY         Y * Data Provider
```

### GBL\_\*

The source location from where a copy is taken

### TRG\_COPY\_\*

The target destination where the files are copied to

### CONFIGURE\_\*

Products for which configuration files will be copied from the source (**GBL\_\***) to the destination (**TRG\_COPY\_\***)

### Additional TRG\_\* parameters

Target copy libraries are always non-VSAM. You can also include the following parameters in your SMP/E target copy member when allocating SMP/E target copy libraries:

#### TRG\_COPY\_VOLUME

Specifies the VOLSER for target copy non-VSAM libraries.

#### TRG\_COPY\_UNIT

Specifies the unit name for target copy non-VSAM libraries.

#### TRG\_COPY\_STORCLAS

Specifies the STORCLAS for target copy non-VSAM libraries.

## TRG\_COPY\_MGMTCLAS

Specifies the MGMTCLAS for target copy non-VSAM libraries.

## Runtime members

The **GENERATE** action generates runtime members in locations (MVS™ data set names and z/OS® UNIX® System Services paths) that are specified by parameters.

### Runtime member locations

MVS™ data sets:

```
rte_hilev.rte_name.RK*  
rte_hilev.rte_name.ssid.RK*  
rte_vsam_hilev.rte_name.RK*  
rte_vsam_hilev.rte_name.ssid.RK*  
gbl_dsn_sys1_proclib  
gbl_dsn_sys1_vtamlib  
gbl_dsn_sys1_vtamlst
```

z/OS® UNIX® directory paths:

```
rte_uss_dir/rte_name/*
```

where:

- *ssid* is the identifier of a subsystem to be monitored, such as a Db2® subsystem or an IMS subsystem
- Other identifiers in *italics* represent parameter values

### Parameters that specify runtime member locations

#### RTE\_HILEV

High-level qualifiers of non-VSAM data sets.

#### RTE\_VSAM\_HILEV

High-level qualifiers of VSAM data sets.

**RTE\_HILEV** and **RTE\_VSAM\_HILEV** have the same default value: *rte\_plib\_hilev*

#### GBL\_DSN\_SYS1\_PROCLIB

#### GBL\_DSN\_SYS1\_VTAMLIB

#### GBL\_DSN\_SYS1\_VTAMLST

The data set names where the **GENERATE** action writes members intended for your system libraries.  
Default values:

```
rte_hilev.SYS1.PROCLIB  
rte_hilev.SYS1.VTAMLIB  
rte_hilev.SYS1.VTAMLST
```

You must use your own site-specific procedures to copy the members from these locations to your actual PROCLIB, VTAMLIB, and VTAMLST system libraries.

#### RTE\_USS\_RTEDIR

z/OS® UNIX® directory. Default value: */var/rtehome*

#### RTE\_NAME

The runtime environment name is appended to **RTE\_HILEV** and **RTE\_VSAM\_HILEV** as a low-level qualifier and to **RTE\_USS\_RTEDIR** as a directory name.

The following diagram illustrates the relationships between parameters and runtime member locations:

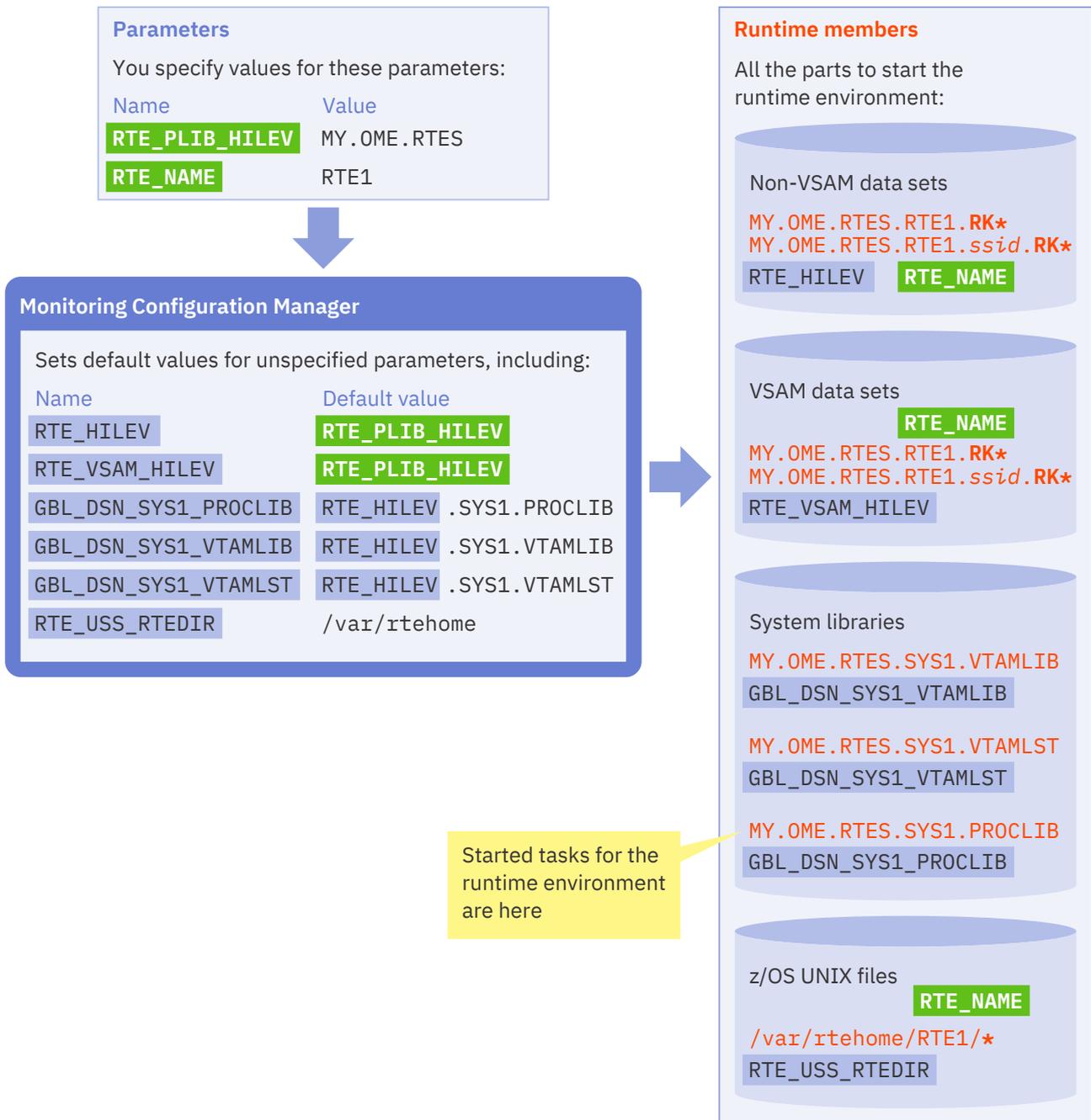


Figure 59: How parameters affect the locations of runtime members

**Tip:** Monitoring Configuration Manager writes concise started tasks to:  
`rte_hilev.SYS1.PROCLIB`  
 and versions with verbose comments to the same location used by PARMGEN:  
`rte_plib_hilev.rte_name.RKANSAMU`  
`rte_plib_hilev.rte_name.RKD2SAM (for Db2®)`

## Communication between monitoring components

In a typical topology, monitoring agents communicate with remote monitoring servers, and remote monitoring servers communicate with a single, central hub monitoring server.

### Typical topology

The following diagram shows a simple example.

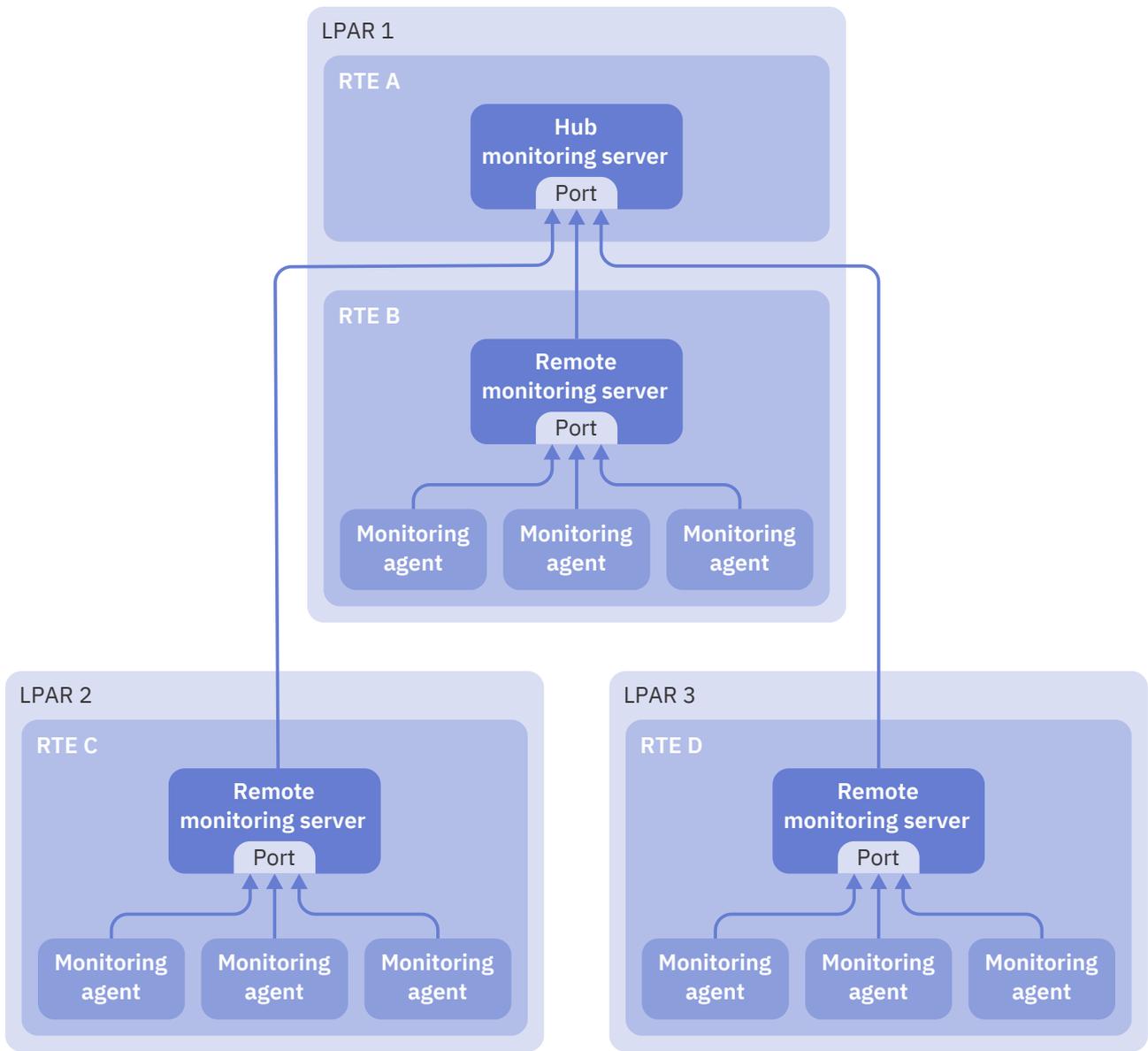


Figure 60: Typical topology of runtime environments in a sysplex

The number of monitoring agents in a runtime environment and the number of LPARs depends on your site.

In a typical topology, monitoring agents communicate with the remote monitoring server that is in the same runtime environment as the agents. Remote monitoring servers are described as *remote* to distinguish them from the *hub* monitoring server. Remote monitoring servers are typically *local* to the monitoring agents with which they communicate, in the sense that they are in the same runtime environment and, hence, the same LPAR.

The default communication protocol for all components is Transport Control Protocol over Internet Protocol version 4 (TCP/IPv4). The hub monitoring server listens on a port for messages from remote monitoring servers. Remote monitoring servers listen on a port for messages from monitoring agents.

### Required parameters

Communication between components involves several parameters. However, for most of these parameters you can use default values.

To configure communication between a remote monitoring server and a hub server, you only need to specify the following parameters:

- In the runtime environment that contains the hub monitoring server (in the previous figure, RTE A):  
**KDS\_TEMS\_TYPE**  
HUB, rather than the default REMOTE.

### RTE\_TCP\_PORT\_NUM

The port on which the hub listens for messages from remote monitoring servers.

- In a runtime environment that contains a remote monitoring server (such as RTE D):

### KDS\_HUB\_TEMS\_NAME\_NODEID

Must match the `RTE_TEMS_NAME_NODEID` parameter of the hub. The default value of `RTE_TEMS_NAME_NODEID` is `rte_name:CMS`.

### KDS\_TCP\_PORT\_NUM

Must match the `RTE_TCP_PORT_NUM` parameter of the hub.

### KDS\_HUB\_TCP\_HOST

Must match the host name or IP address of the LPAR that contains the hub.

You don't need to specify any parameters to configure communication between monitoring agents and a remote monitoring server in the same runtime environment.

The following diagram shows the required parameters in each runtime environment and their relationships:

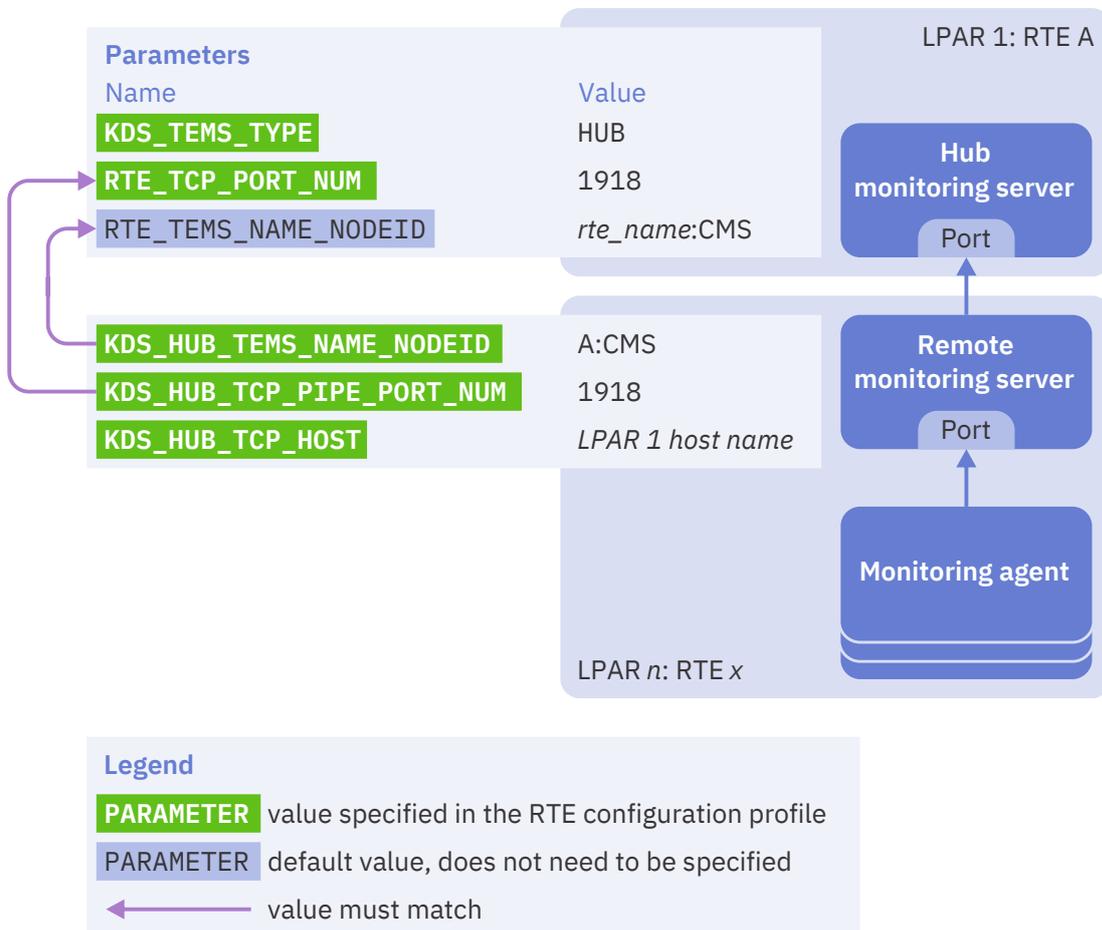


Figure 61: Parameters required to configure a typical topology

### Other parameters

The following diagram shows a more comprehensive overview of the parameters to configure communication between components, including the default values of parameters omitted from the previous diagram.

**For a typical topology, you do not need to be aware of these other parameters.** This diagram is provided as a reference for configuring different topologies.

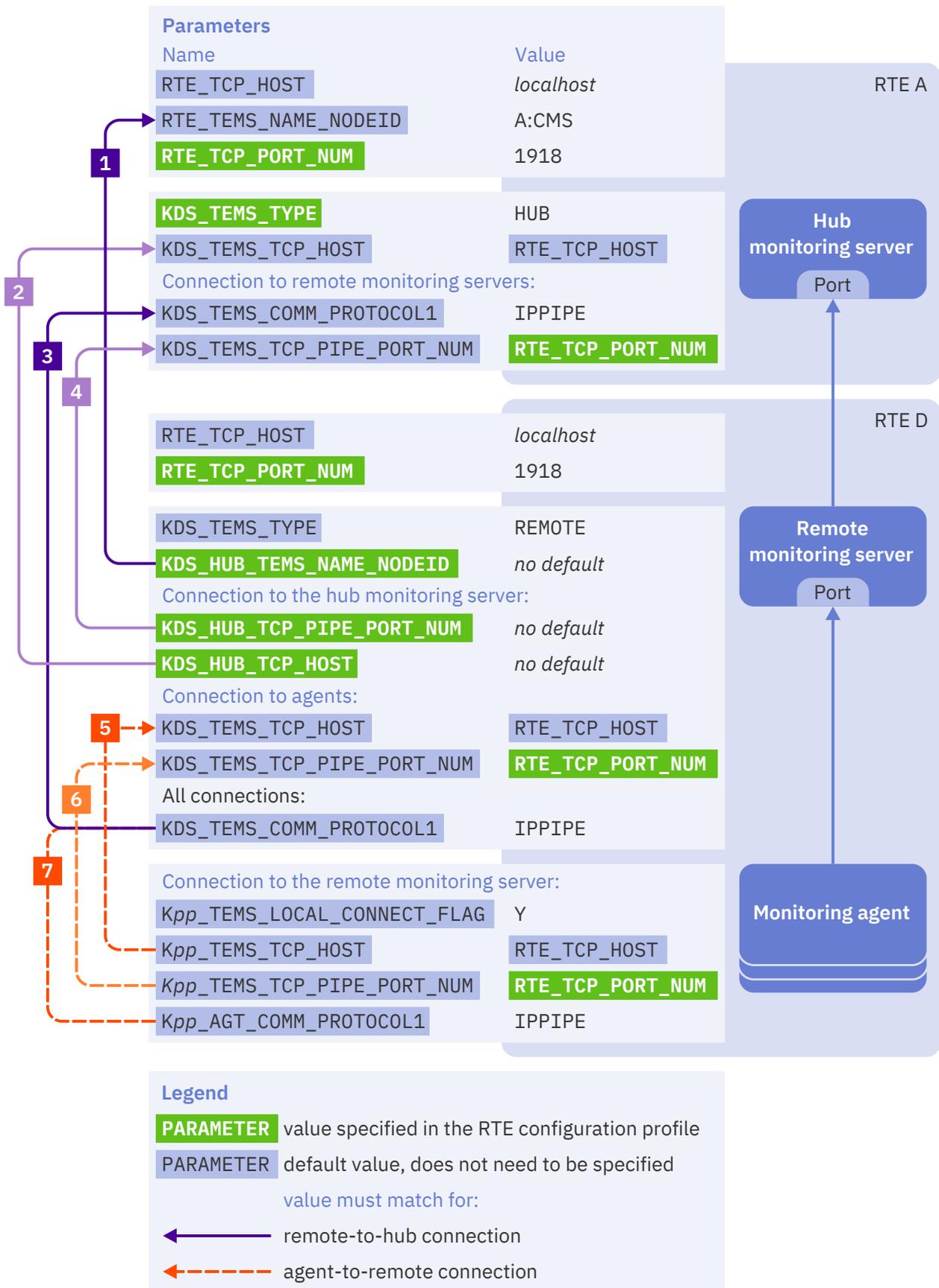


Figure 62: Parameters to configure communication between components, including significant default values

### Communication between a remote monitoring server and the hub monitoring server

For a remote monitoring server to communicate with the hub monitoring server, the following parameters must match:

Figure label	This parameter in the RTE of the remote monitoring server	...must match this parameter in the RTE of the hub
1	<b>KDS_HUB_TEMS_NAME_NODEID</b> The remote monitoring server must refer to the node ID of the hub.	<b>RTE_TEMS_NAME_NODEID</b>
2	<b>KDS_HUB_TCP_HOST</b> The remote monitoring server must refer to the host name of the hub.	<b>KDS_TEMS_TCP_HOST</b>
3	<b>KDS_TEMS_COMM_PROTOCOLn</b> The remote monitoring server and hub must have at least one communication protocol in common.	<b>KDS_TEMS_COMM_PROTOCOLn</b>
4	<b>KDS_HUB_TCP_PIPE_PORT_NUM</b> The remote monitoring server must refer to the port on which the hub is listening.	<b>KDS_TEMS_TCP_PIPE_PORT_NUM</b>

### Communication between monitoring agents and a remote monitoring server

For monitoring agents to communicate with a remote monitoring server, the following parameters must match:

Figure label	This parameter for the monitoring agent...	...must match this parameter for the remote monitoring server
5	<b>Kpp_TEMS_TCP_HOST</b>	<b>KDS_TEMS_TCP_HOST</b>
6	<b>Kpp_TEMS_TCP_PIPE_PORT_NUM</b>	<b>KDS_TEMS_TCP_PIPE_PORT_NUM</b>
7	<b>Kpp_AGT_COMM_PROTOCOLn</b>	<b>KDS_TEMS_COMM_PROTOCOLn</b>

If monitoring agents communicate with the remote monitoring server that is in the same runtime environment, as specified by the default parameter value **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG** Y, then all of these parameters match by default.

### Choice of communication protocols

You can specify up to seven communication protocols for each monitoring agent and server. When attempting to communicate, a monitoring agent or server tries its protocols in order. If the first choice fails, it tries the second choice, and so on. You can either set the communication protocol choices individually for the monitoring server and each agent in a runtime environment, or you can use the **RTE\_COMM\_PROTOCOLn** parameters to set them all together.

## Variables in parameter values

Many parameter values can optionally refer to variables.

IBM Z® Monitoring Configuration Manager supports the same variables as PARMGEN.

**Tip:** Instead of using variables, consider using LPAR-specific [RTEDEF members](#).

### Variables versus LPAR-specific RTEDEF members

Variables enable you to reuse a configuration profile member for different LPARs where LPARs require different parameter values.

However, using variables adds a precursor step to runtime environment started tasks. The step resolves variable values. The additional processing delays runtime environment startup.

LPAR-specific RTEDEF members, introduced by Monitoring Configuration Manager, offer an alternative to using variables for LPAR-specific parameter values.

Using LPAR-specific RTEDEF members instead of variables removes the variable-resolution precursor step from started tasks.

If you use LPAR-specific RTEDEF members instead of variables, started tasks are simpler and runtime environments start faster.

### Using variables

To use variables, you must set the **RTE\_SYSV\_SYSVAR\_FLAG** parameter to Y.

Variables, like parameters, are defined using name-value pairs and are stored in members of the RTEDEF library.

The following example, without variables, sets the parameter named **RTE\_TCP\_PORT\_NUM** to the literal value 1918:

```
RTE_TCP_PORT_NUM 1918
```

The following example sets the parameter to the value of the variable **RTE\_PORT**:

```
RTE_TCP_PORT_NUM &RTE_PORT.
```

Suppose your sysplex contains two LPARs: ZOS1 and ZOS2. In general, these LPARs have similar runtime environment configurations. However, on ZOS1 you want the monitoring server to listen on port 1918, whereas on ZOS2 you want the monitoring server to listen on port 1919.

In the variables configuration profile member for LPAR ZOS1, VAR\$ZOS1, you set the **RTE\_PORT** variable to 1918:

```
RTE_PORT 1918
```

In VAR\$ZOS2, you set **RTE\_PORT** to 1919:

```
RTE_PORT 1919
```

### RTEDEF members that define variables

In the LPARs column of the following table, *Current* means: the LPAR on which the **GENERATE** action is performed.

<i>Table 49: RTEDEF members that define variables, and the LPARs to which they apply</i>		
Member name	LPARs	Description
VAR\$GLOB	All	Variables configuration profile.
VAR\$lpar	Current	LPAR-specific variables configuration profile.

If a variable is defined in both VAR\$GLOB and VAR\$lpar, then the value in VAR\$lpar is used.

### Unique variable names

While Configuration Manager supports runtime environments with variables (parameter **RTE\_SYSV\_SYSVAR\_FLAG** is set to Y), it does not support cases where the parameter value is a variable with the same name as the parameter itself.

For example, Configuration Manager does not allow the following parameter setting:

```
RTE_USS_RTEDIR &RTE_USS_RTEDIR
```

In this case, you must change the name of the variable to be different from the parameter name, as shown in the following example where the prefix MY\_ has been added to the variable name:

```
RTE_USS_RTEDIR &MY_RTE_USS_RTEDIR
```

### Variables migrated from PARMGEN

Unlike Configuration Manager, PARMGEN does allow the name of a variable to be the same as the parameter to which it is assigned. If any of these same-name settings exist in your PARMGEN parameter definitions, the variables must be renamed for use by Configuration Manager.

When you migrate configuration settings from PARMGEN to Configuration Manager using the **MIGRATE** action, the **MIGRATE** action automatically rectifies any such incompatible settings, as follows:

- For variable names that are 30 characters or less, the **MIGRATE** action renames the variable by adding the following suffix to the name: `_R`  
For example, PARMGEN allows the following parameter setting, which is defined in member `WCONFIG(rte_name)`:

```
RTE_USS_RTEDIR &RTE_USS_RTEDIR
```

The value of the variable is set in member `GBL_USER_JCL(rte_name)`, as follows:

```
RTE_USS_RTEDIR "value"
```

When the configuration settings are imported from PARMGEN to Configuration Manager, the **MIGRATE** action renames the variable, as follows:

- In member `RTEDEF(rte_name)`:

```
RTE_USS_RTEDIR &RTE_USS_RTEDIR_R
```

- In member `RTEDEF(VAR$GLOB)`:

```
RTE_USS_RTEDIR_R "value"
```

- If the variable name is 31 characters, the **MIGRATE** action only adds the following suffix: `_`
- If the variable name is 32 characters (the maximum length), the **MIGRATE** action only adds a comment with a warning in the respective `RTEDEF(VAR$GLOB)` member, indicating that you must rename the variable.

**Note:** To rename your variables to names other than those provided by the default naming convention of the **MIGRATE** action, you must manually rename the variables either before or after you run the **MIGRATE** action.

## Setting up security exits in your runtime environment

Security exits are required for your runtime environment. You can use the **CREATE** and **MIGRATE** actions to set up your security exits library, and use the **GENERATE** action to create the necessary runtime members.

You must set up a library for your runtime environment that contains the OMEGAMON and IBM Tivoli Monitoring-related product security exits (such as KOBSPDT OMEGAMON *KppSUPDI* exits, Tivoli Monitoring Services: Engine security exits, and external security exits).

The following points provide an overview of the configuration that is required in Configuration Manager for security exits in your runtime environment:

- A dedicated library must be allocated and populated with the security exits. The default name for the security exits library is `rte_plib_hilev.rte_name`. `SECEXITS`. (You can override the name of this library using the `KFJ_SECURITY_EXITS_LIB` parameter in the **CREATE** or **MIGRATE** action.) If you use the **CREATE** or **MIGRATE** action to allocate the library, it will be populated with default security exit members. You can also import existing security exit members if you are migrating your runtime environment from PARMGEN.
- A reference to the security exits library is required in the `RTE_X_SECURITY_EXIT_LIB` parameter located in member `rte_plib_hilev.RTEDEF(rte_name)`.

After the security exits library has been set up using Configuration Manager, you can modify the security exit members as needed for your environment. You can then use the **GENERATE** action to rebuild and relink them.

### Setting up security exits using CREATE

You can use the **CREATE** action to allocate the security exits library using the default name and populate it with an initial set of configuration profile members. You can also use the `KFJ_SECURITY_EXITS_LIB` parameter to specify another name for the security exits library. If the specified data set does not exist, it will be allocated and populated with the default security exit members. If the specified data set does exist, it will be populated

with the default security members, but no existing member will be overwritten. The **CREATE** action also populates the required reference to the library in the **RTE\_X\_SECURITY\_EXIT\_LIB** parameter.

For more information about running the **CREATE** action, see [“CREATE” on page 239](#).

### Setting up security exits using MIGRATE

If you are migrating your runtime environment from PARMGEN, you can use the **MIGRATE** action to import the PARMGEN security exits into the new runtime environment. Like the **CREATE** action, the **MIGRATE** action allocates the *rte\_plib\_hilev.rte\_name*.SECEXITS library (or, optionally, the library specified in the **KFJ\_SECURITY\_EXITS\_LIB** parameter). The **MIGRATE** action also copies the security exits used by the PARMGEN environment to the specified security exits library. Because the migration also imports runtime environment configuration settings from the PARMGEN environment, the **RTE\_X\_SECURITY\_EXIT\_LIB** parameter will contain the name of the security exits library used by the PARMGEN environment; you must review this setting and update it to use the proper *rte\_plib\_hilev.rte\_name*.SECEXITS library (if necessary) before running the **GENERATE** action.

**Note:** The security exits library used in PARMGEN is identified in *rte\_hilev.rtename*.RKANSAMU and is not changed as a result of the **MIGRATE** action. For more information about the differences between PARMGEN and Configuration Manager, see [“Comparison with PARMGEN” on page 216](#).

For more information about running the **MIGRATE** action, see [“MIGRATE” on page 261](#).

### Rebuild and relink security exits using GENERATE

The **GENERATE** action automatically performs the required tasks of rebuilding and relinking the security exits. The **GENERATE** action also provides an optional setting, **OPTION SECEXITS**, that allows you to perform the security exits tasks separately from the normal **GENERATE** workflow, which can save valuable CPU cycles.

For more information about running the **GENERATE** action, see [“GENERATE” on page 248](#).

## Using override embed members in Configuration Manager

With Monitoring Configuration Manager, you can use override embed members to provide and maintain customization for your runtime environments.

A Monitoring Configuration Manager configuration creates a set of files that get embedded in a number of the most commonly updated runtime members in the user libraries. These override embed members can be used to specify user-defined parameters and values that might otherwise be overwritten by the **GENERATE** action when maintenance or upgrades are performed, or to override existing values.

The override embed members are stored in the *embeds data set*. The default name for this data set is *rte\_plib\_hilev.rte\_name*.EMBEDS, or you can use a customized name. You can use one data set per RTE or you can share a common data set across multiple RTEs.

When using Monitoring Configuration Manager, you can enable the use of override embed members when creating an RTE or for an existing RTE.

The following parameters provide support for using override embed members:

#### **KFJ\_USE\_EMBEDS**

This Monitoring Configuration Manager parameter controls whether override embed members are enabled for the RTE. When set to Y on the initial **CREATE** or **MIGRATE** action when creating an RTE, Monitoring Configuration Manager sets up the embeds data set, populates it with supported override embed parameters (if applicable), and defines it to the RTE using the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter. Valid values are Y and N. The default is N.

#### **KFJ\_EMBEDS\_LIB**

This Monitoring Configuration Manager parameter identifies the data set that contains the override embed values for the RTE. Use a valid MVS data set name for the value.

#### **RTE\_X\_OVERRIDE\_EMBEDS\_LIB**

This parameter specifies the name of the source library for override embed members for the RTE and is located in RTEDEF (*rte\_name*). This parameter and value is set up automatically when the initial **CREATE**

or **MIGRATE** action runs to create an RTE and **KFJ\_USE\_EMBEDS** is set to Y. It needs to be added manually if you decide to [add override embed support to an existing RTE](#).

## Example

An example of how to specify the override embed parameters is shown below. By default, the override embed support is disabled. However, this example shows that it is enabled and provides the data set name.

```
//KCIVARS DD *  
ACTION          CREATE  
RTE_NAME        DEMO  
RTE_PLIB_HILEV  TEST1.TST  
...  
KFJ_USE_EMBEDS  Y          * Y|N valid values  
KFJ_EMBEDS_LIB  TEST1.TST.DEMO.MYEMBEDS * override default EMBEDS library
```

**Tip:** For more information about override embed members, see PARMGEN topics [Override embed members](#) and [Customizing the override embed members](#). The override embed parameters and values are the same regardless if Monitoring Configuration Manager or PARMGEN is used to configure your RTE. Note that customization of the override embed members is also the same except, whereas in PARMGEN it is done from the WCONFIG, in Monitoring Configuration Manager it is done in the embeds data set specified in **RTE\_X\_OVERRIDE\_EMBEDS\_LIB**.

## Enable override embed members when creating an RTE

Use this procedure to enable override embed members when creating a runtime environment (RTE).

### Before you begin

Read [“Using override embed members in Configuration Manager”](#) on page 337.

This task applies to creating an RTE using the Monitoring Configuration Manager [“CREATE”](#) on page 239 or [“MIGRATE”](#) on page 261 action. For more information, see [“Creating your first, minimal runtime environment”](#) on page 222.

### About this task

Override embed members can be used to specify user-defined parameters and values that might otherwise be overwritten by the **GENERATE** action when maintenance or upgrades are performed, or to override existing values. Using override embed members for your runtime environment requires a data set (the *embeds data set*) that contains the override embed parameters and values.

You can enable the use of override embed members when creating your RTE by including the **KFJ\_USE\_EMBEDS** parameter set to Y in the KCIVARS DD statement for the **CREATE** or **MIGRATE** actions. With the inclusion of this setting, Monitoring Configuration Manager creates the embeds data set, populates the override embed parameters and values, and defines the data set to the RTE using the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter.

For the **CREATE** action, by default, the embeds data set is populated with the override embed parameters and values for the products that are installed in the respective CSI used to build the RTE. For the **MIGRATE** action, this library will contain the embed parameters and values from the source PARMGEN installation (as specified by parameter **KFJ\_MIGRATE\_WCONFIG**).

The default embeds data set name is *rte\_plib\_hilev.rte\_name.EMBEDS*. Optionally, you can include the **KFJ\_EMBEDS\_LIB** parameter to use a custom data set name rather than the default name. Use of this parameter allows you to use the same embeds data set and settings for multiple RTEs.

**Note:** If you specify the name of an existing data set using parameter **KFJ\_EMBEDS\_LIB**, its contents will not be overwritten.

## Procedure

1. As part of the process to create an RTE, submit a job that performs the **CREATE** action or **MIGRATE** action with **KFJ\_USE\_EMBEDS** set to Y and, optionally, **KFJ\_EMBEDS\_LIB** set to a custom data set name.  
Example JCL:

Figure 63: Example JCL to enable override embed members for a new RTE

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<plib_hlq>.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=<plib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION CREATE | MIGRATE
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
...
KFJ_USE_EMBEDS Y * Y|N valid values
KFJ_EMBEDS_LIB <embeds_data_set_name> * override default EMBEDS library
/*
```

Where *<rte\_name>* and *<rte\_plib\_hilev>* specify the RTE, and *<embeds\_data\_set\_name>* is the optional custom embeds data set name.

2. Complete the creation of the RTE. For more information, see [“Creating or updating a runtime environment” on page 229](#).
3. Update the override embed members as needed.

## Result

Monitoring Configuration Manager sets up the embeds data set, populates it with supported override embed parameters (if applicable), and defines it to the RTE using the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter.

## Enable override embed members for an existing RTE

Use this procedure to enable override embed members for an existing runtime environment (RTE).

### Before you begin

Read [“Using override embed members in Configuration Manager” on page 337](#).

This task assumes that you have an existing runtime environment (RTE) that was created using Monitoring Configuration Manager. For more information, see [“Creating or updating a runtime environment” on page 229](#).

### About this task

Override embed members can be used to specify user-defined parameters and values that might otherwise be overwritten by the **GENERATE** action when maintenance or upgrades are performed, or to override existing values. Using override embed members for your runtime environment requires a data set (the *embeds data set*) that contains the override embed parameters and values.

You can enable the use of override embed members after you have created your RTE by running the **CREATE** action with the **KFJ\_USE\_EMBEDS** parameter set to Y. With the inclusion of this setting, Monitoring Configuration Manager creates the embeds data set and populates it, by default, with the override embed parameters and values for the products that are installed in the respective CSI.

**Note:** Running the **CREATE** action after the RTE has been created does not affect existing settings.

The default embeds data set name is *rte\_plib\_hilev.rte\_name.EMBEDS*. Optionally, you can include the **KFJ\_EMBEDS\_LIB** parameter to use a custom data set name rather than the default name. Use of this parameter allows you to use the same embeds data set and settings for multiple RTEs.

**Note:** If you specify the name of an existing data set using parameter **KFJ\_EMBEDS\_LIB**, its contents will not be overwritten.

After the **CREATE** action is performed, you manually define the override embed data set to use for the RTE using the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter.

## Procedure

1. Submit a job that performs the **CREATE** action with **KFJ\_USE\_EMBEDS** set to Y and, optionally, **KFJ\_EMBEDS\_LIB** set to a custom data set name.

Example JCL:

Figure 64: Example JCL to enable override embed members for an existing RTE

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<plib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<plib_hlq>.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION CREATE
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
...
KFJ_USE_EMBEDS Y * Y|N valid values
KFJ_EMBEDS_LIB <embeds_data_set_name> * override default EMBEDs library
/*
```

Where *<rte\_name>* and *<rte\_plib\_hilev>* specify the RTE, and *<embeds\_data\_set\_name>* is the optional custom embeds data set name.

This job sets up the embeds data set and, if applicable, populates it with supported override embed parameters.

2. Open the RTEDEF(*rte\_name*) member and add the **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** parameter with the embeds data set name.

Example:

```
RTE_X_OVERRIDE_EMBEDS_LIB <embeds_data_set_name>
```

3. Update the override embed members as needed.

## Update override embed members for an existing RTE after maintenance

Use this procedure to update override embed members for an existing runtime environment (RTE) using Configuration Manager after applying maintenance.

### Before you begin

Read [“Using override embed members in Configuration Manager” on page 337](#).

This task assumes the following points:

- You have an existing runtime environment (RTE) that was created using Configuration Manager and has override embed members enabled.
- You used SMP/E to apply maintenance that introduces changes to your override embed members. The PTF ++HOLD text identifies the override embed members that have updates.

### About this task

Some Configuration Manager maintenance includes updates to override embed members. If the RTE has override embed members enabled, Configuration Manager does not apply the changes to the override embed members automatically. Instead, you must perform additional steps manually to apply the updates.

Use the following procedure to update the embeds data set without losing your user modifications.

## Procedure

1. Browse the library that is specified in parameter **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** in member RTEDEF(*rte\_name*), and find the override embed member that was updated. Either rename the override embed member or move it to a different library of your choice that is not controlled by Configuration Manager.

**Important:** You must preserve the override embed member for later use.

2. Submit a job that performs the **CREATE** action with **KFJ\_USE\_EMBEDS** set to Y and, optionally, **KFJ\_EMBEDS\_LIB** set to a custom data set name.  
Example JCL:

Figure 65: Example JCL to obtain updated override embed members from maintenance

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<plib_hlq>.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=<plib_hlq>.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION CREATE
RTE_NAME <rte_name>
RTE_PLIB_HILEV <rte_plib_hilev>
...
KFJ_USE_EMBEDS Y * Y|N valid values
KFJ_EMBEDS_LIB <embeds_data_set_name> * override default EMBEDs library
/*
```

Where *<rte\_name>* and *<rte\_plib\_hilev>* specify the RTE, and *<embeds\_data\_set\_name>* is the optional custom embeds data set name.

This job pulls the updated versions of the override embed members from the updated SMP/E environment.

3. Compare the refreshed override embed member with your backup version. The comparison shows the updates introduced by the latest maintenance and any differences from previous user modifications. Identify the user modifications you must keep, and copy them to the refreshed member.
4. Continue with the standard maintenance procedure (for example, perform the **GENERATE** action).

## Deploying remote runtime environments

Use the topics in this section to guide you through the deployment of runtime environments to remote systems.

Remote deployment is the process of creating a configuration-only runtime environment on a configuration system and then deploying the configured data sets to another system (the target system) where the runtime environment will be used.

### Remote deployment scenario

In a remote deployment scenario, you must create a runtime environment on a specific LPAR (the configuration system), package the runtime environment data sets using the **PACKAGE** action, transfer the data sets to the remote target system (target system), and deploy (restore) the packaged runtime environment data sets on the target LPAR using the **DEPLOY** action.

### Before you begin

Review the following information before you implement a remote deployment:

- Make sure the SMP/E target libraries for TKANMOD and TKANCUS on the target system system and TKANMOD are APF-authorized. APF authorization is needed to run the necessary actions on the target system system.
- If you are using the default RTE\_TYPE (that is, SHARING with SMP), make sure a copy of the SMP/E target libraries is available on the target system system, using the value you specified in **GBL\_TARGET\_HILEV** of member RTEDEF (GBL\$PARM).

If you cannot share your SMP/E target libraries on the target system system, you can use the action **BLDREMS** in the utility flow TKANSAM(KFJMAINT) to build the respective TKANSAM, TKANCUS, and TKANMOD data sets and transfer them to the target system system.

- The z/OS operating system versions on your configuration system and target system should be ideally at the same level. If this is not the case, you will have to customize the z/OS specific libraries, such as SCEELKED in RTEDEF (GBL\$PARM) or RTEDEF (GBL\$lpar), to handle this situation.

For example, parameter **GBL\_DSN\_CEE\_SCEELKED** pointing to the default SCEE.SCEELKED system library could point to the z/OS 2.4 version of the library in **GBL\$1par1** and the z/OS 2.5 version in **GBL\$1par2**, respectively.

When generating the runtime environment locally, the respective **GBL\$1parn** member will be used.

### Related topics

- [“Special considerations for SYSPLEX rollout” on page 323](#)
- [“RTEDEF\(PCK\\$PARM\)” on page 326](#)
- [“Remote deployment example using local libraries” on page 343](#)
- [“Parameters that cannot be customized for remote deployment” on page 350](#)
- [“KFJ\\_LOCAL\\_PLIB\\_HILEV” on page 302](#)
- [“KFJ\\_PACK\\_HILEV” on page 307](#)
- Using **KFJ\_LOCAL\_PLIB\_HILEV** in **CREATE, MIGRATE, GENERATE, PACKAGE, DELETE**
- [“PACKAGE” on page 265](#)
- [“DEPLOY” on page 268](#)
- [“Deleting libraries used for remote deployment” on page 260](#)

### About this task

The steps in the following procedure describe a sample sequence to be performed for a remote deployment. The procedure uses the terms *configuration system* and *target system* to distinguish the systems. Typically, the target system is a *remote* system.

You cannot customize some parameters when you are creating a runtime environment for remote deployment. For more information, see [“Parameters that cannot be customized for remote deployment” on page 350](#).

**Tip:** If you need to assemble and link elements (for example, when applying maintenance), you can use the **GENERATE** action with **OPTION RELINK**. For more information, see [“RELINK | NORELINK” on page 254](#).

### Procedure

1. For the configuration system, run the **CREATE** action to create an initial RTEDEF data set that will contain the configuration settings of your target system.  
(Optional) Specify the **KFJ\_LOCAL\_PLIB\_HILEV** value in the **KCIVARS DD** statement to indicate that you want to use different high-level qualifiers or z/OS® UNIX® System Services paths on the configuration system and the target system. The **KFJ\_LOCAL\_PLIB\_HILEV** parameter is not needed if you will use the same high-level qualifiers on both the configuration system and the target system. See the [“CREATE” on page 239](#) action for more details.
2. For the target system, run the **DISCOVER** action to discover the subsystems and system symbols. This action will also create a RTEDEF data set that will contain the **Kpp@1par** members for the subsystems discovered as well as the **SYS@1par** member containing the system symbols.
3. For both the configuration system and the target system, transfer the RTEDEF created on the target system to the configuration system, and merge the contents into the RTEDEF created in step 1 on the configuration system.
4. For the configuration system, customize your runtime environment as per your needs, understanding that the customizations will reflect the target system system, such as the high-level qualifiers needed and features enabled in RTEDEF (**Kpp\$PARM** or **Kpp\$1par**) members.  
(Optional) If you used the **KFJ\_LOCAL\_PLIB\_HILEV** parameter, member **RTEDEF (PCK\$PARM)** will be created, which allows you to map local Qshell and z/OS® UNIX® paths for allocating the runtime environment data sets or z/OS® UNIX® directories on the configuration system.

**Note:** The settings in RTEDEF (PCK\$PARM) are applicable for all runtime environments configured in the RTEDEF data sets, that is, for all runtime environments of the respective SYSPLEX. If you want to use a different local high-level qualifier for a specific target system on the configuration system, you can create member RTEDEF (PCK\$Lpar) by copying RTEDEF (PCK\$PARM) and making the respective changes.

5. For the configuration system, run the **GENERATE** action for your target system runtime environment by adding the **KFJ\_SYSNAME** parameter to the KCIVARS DD statement. The value of **KFJ\_SYSNAME** specifies the SYSNAME or LPAR name or the SYSSMFID if the LPAR name is longer than four characters. See [“KFJ\\_SYSNAME” on page 314](#) for more details.  
(Optional) For the configuration system, if you used the **KFJ\_LOCAL\_PLIB\_HILEV** parameter, after the **GENERATE** action completes, your runtime environment data sets are created using the high-level qualifier or z/OS® UNIX® root path name mapping as specified in RTEDEF (PCK\$PARM or PCK\$Lpar). The members RTEDEF (PCK\$PARM) and RTEDEF (PCK\$LPAR) will be read and used during runtime environment generation.

**Note:** In this case, the runtime environment will not be able to start up as the target system settings are used to generate the respective configuration settings.

6. For the configuration system, run the **PACKAGE** action to build transferable dump data sets. Refer to [“PACKAGE” on page 265](#) for more details about the data sets created and the options that can be used.
7. For the configuration system and the target system, transfer the dump data sets to the target system using the procedure of your choice (for example, FTPS).

**Important:** If you transfer your package data sets with a qualifier that is different from **RTE\_PLIB\_HILEV** parameter value, you must use the **KFJ\_PACK\_HILEV** parameter when you deploy the runtime environment in the next step.

8. For the target system, run the **DEPLOY** action to unpack or restore the (tersed) data sets. See [“DEPLOY” on page 268](#) for more details and the options that can be used.
9. For the target system, adjust or copy your started task procedures.

## Remote deployment example using local libraries

This detailed example shows how to use local libraries to implement remote deployment of a runtime environment.

### Overview

Using local libraries in a remote deployment scenario is required when the system that you are deploying to requires different high-level qualifiers than the high-level qualifiers used on your configuration system.

**Tip:** If you can use the same high-level qualifiers on the configuration and target systems, you do not have to use local libraries for remote deployment.

This example demonstrates the steps required to create the necessary data sets and parameter settings using local libraries for a runtime environment that will be deployed to another system.

This example use the following terms:

#### Configuration system

The system where the runtime environment to be deployed is configured and packaged.

**Note:** A configuration runtime environment (that is, the runtime environment that is configured for the purpose of deployment) cannot be started.

### Target system

The system where the package data sets are restored (deployed) and where the runtime environment will be active. Typically, the target system is a *remote* system, but it can also be the same system as the configuration system.

### Local libraries

The data sets on the configuration system that are used for creating, configuring, and packaging a runtime environment to be deployed to another system. The parameters in the local libraries on the configuration system are configured for the target system.

Local libraries cannot be used for an active runtime environment on the configuration system.

Local libraries are defined and used with parameter **KFJ\_LOCAL\_PLIB\_HILEV**. The local library RTEDEF data set contains special member PCK\$PARM, which is used specifically for packaging and deploying a runtime environment using local libraries.

In this remote deployment scenario, the DASD for the configuration system and the target system is not shared and requires the use of different high-level qualifiers from each other. In this example, the high-level qualifiers for the configuration system are DEV . OMEG and the high-level qualifiers for the target system are PROD . OMEG.

**Note:** The following examples include only the parameters related to remote deployment. Additional parameters in the KCIVARS DD might be necessary depending on your requirements.

### Diagram

The following diagram shows an overview of the steps for implementing remote deployment of a runtime environment using local libraries.

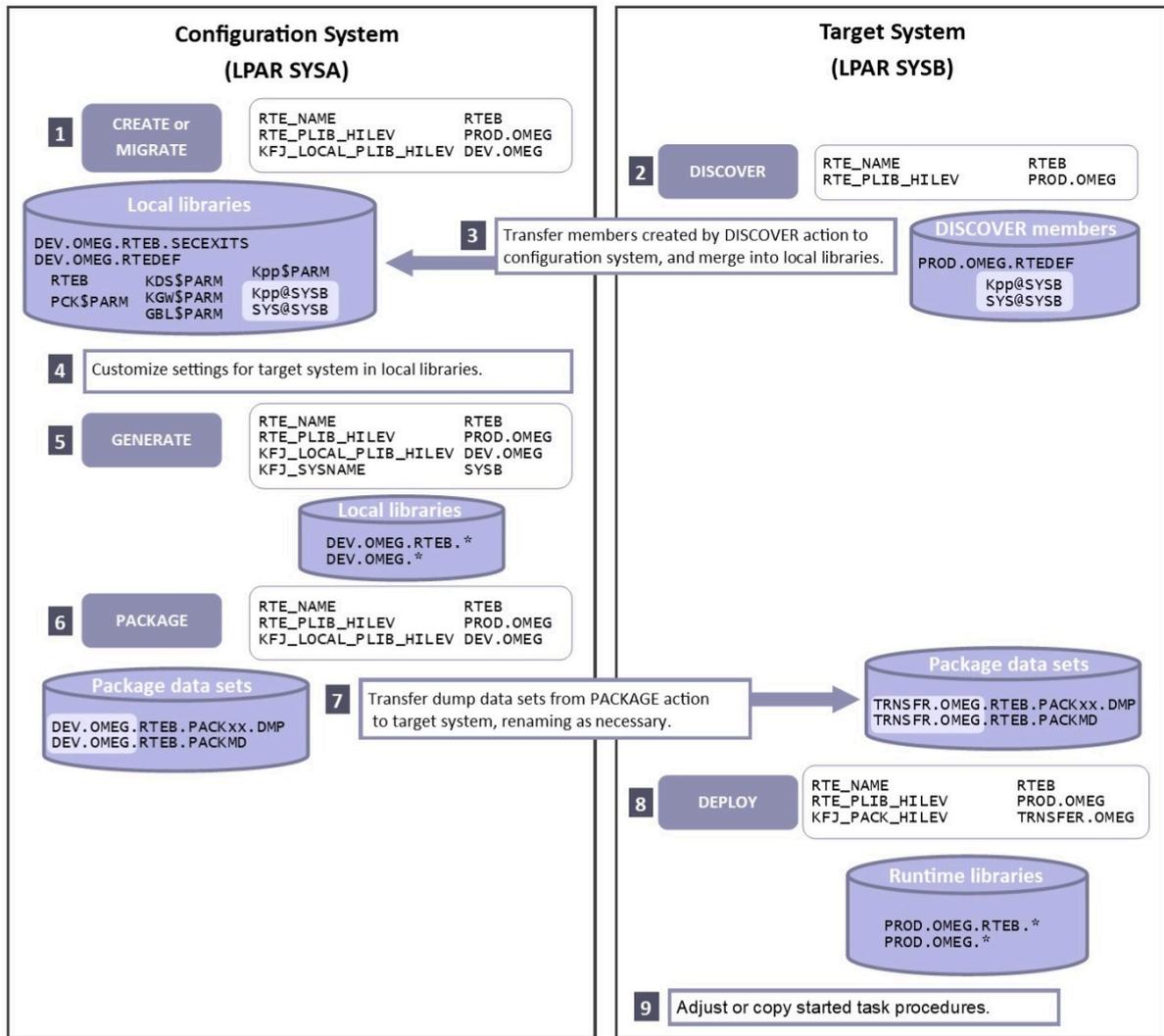


Figure 66: Using local libraries to deploy a runtime environment

For details about each of the numbered steps in the diagram, refer to the following sections.

### 1. CREATE or MIGRATE actions

On the configuration system, use the **CREATE** or **MIGRATE** action to create the initial local libraries and members that will contain the configuration settings of your target system.

Include the following parameters:

#### RTE\_NAME

Specify the name of the runtime environment that will be active on the target system.

#### RTE\_PLIB\_HILEV

Specify the high-level qualifier for the runtime definition (RTEDEF) library to be used on the target system.

#### KFJ\_LOCAL\_PLIB\_HILEV

Specify the high-level qualifier of the local libraries on the configuration system, which will be used for building the configuration-only runtime environment that will be deployed.

ACTION	CREATE   MIGRATE
RTE_NAME	RTEB
RTE_PLIB_HILEV	PROD.OMEG
KFJ_LOCAL_PLIB_HILEV	DEV.OMEG

### Results

Local library data sets and members are created on the configuration system as a result of this step, as follows:

- Local libraries are created on the configuration system using the value specified in **KFJ\_LOCAL\_PLIB\_HILEV** as the high-level qualifier.
- The following members are created in the local library RTEDEF data set:
  - Member *rte\_name* is named using the value specified in parameter **RTE\_NAME**. The **RTE\_PLIB\_HILEV** parameter and value appear in this member. For more information about the contents of this member, see [“RTEDEF\(rte\\_name\)” on page 324](#). This member is used for settings for the target system.
  - Member PCK\$PARM is created and contains information about the configuration system. This member is used to map parameters and values in the configuration-only runtime environment to the target system. For more information about the contents of this member, see [“RTEDEF\(PCK\\$PARM\)” on page 326](#).
  - Product and component-specific members *Kpp\$PARM* (or *Kpp\$lpar*) and *GBL\$PARM* (or *GBL\$lpar*) are created. These members are used for settings for the target system. In this example, *KDS\$PARM*, *KGW\$PARM*, and *GBL\$PARM* are created.

For more information about these RTEDEF members, see [“Initial runtime environment library members” on page 322](#).

**Note:** The **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameter values are used to populate some parameter values. Other parameter values are set by default to settings for the configuration system. Customization of parameter values occurs in a subsequent step.

- A default security exits library is created: *kfj\_local\_plib\_hilev.rte\_name*. SECEXITS

In this example, local libraries using the high-level qualifiers DEV.OMEG are created on the configuration system, as follows:

```
DEV.OMEG.RTEB.SECEXITS
DEV.OMEG.RTEDEF
Members: RTEB
          KDS$PARM
          KGW$PARM
          GBL$PARM
          PCK$PARM
```

## 2. DISCOVER action

On the target system, run the **DISCOVER** action to discover the subsystems and system symbols.

Include the following parameters, set to the same values that were used in the **CREATE** (or **MIGRATE**) action in the previous step:

### RTE\_NAME

Specify the name of the runtime environment that will be active on the target system.

### RTE\_PLIB\_HILEV

Specify the high-level qualifier for the runtime definition (RTEDEF) library to be used on the target system.

ACTION	DISCOVER
RTE_NAME	RTEB
RTE_PLIB_HILEV	PROD.OMEG

### Notes:

- Parameter **KFJ\_LOCAL\_PLIB\_HILEV** is not used with the **DISCOVER** action on the target system.
- You must change the program name from **KCIOMEGA** to **KCIALPHA** for the **DISCOVER** job.
- You do not need to run the **CREATE** action on the target system before running the **DISCOVER** action.

## Results

This action creates an RTEDEF data set on the target system using the value specified in **RTE\_PLIB\_HILEV** as the high-level qualifier. This data set contains the *Kpp@lpar* members for the subsystems discovered on the target system and the *SYS@lpar* member containing the system symbols.

In this example, the RTEDEF data set is created on the target system using the high-level qualifiers **PROD.OMEG** and includes the members for the subsystems and system symbols, as follows:

```
PROD.OMEG.RTEDEF
Members: Kpp@SYSB
        SYS@SYSB
```

The *Kpp@lpar* members that are created depend on the subsystems installed on the system.

**Note:** When discovering MQ subsystems, the **DISCOVER** action creates only a comment member, as indicated by the hash (#) in the member name. For more information, see [“RTEDEF\(KMQ#lpar\)” on page 247](#).

### 3. Manual steps to transfer and merge your DISCOVER results

Transfer the members created by the **DISCOVER** action (members *Kpp@lpar* and *SYS@lpar*) from the *rte\_plib\_hilev*.RTEDEF data set on the target system to the *kfj\_local\_plib\_hilev*.RTEDEF data set on the configuration system.

In this example, members *Kpp@SYSB* and *SYS@SYSB* are copied from data set **PROD.OMEG.RTEDEF** on the target system to data set **DEV.OMEG.RTEDEF** on the configuration system.

### 4. Manual steps to customize your runtime environment before generating runtime members

On the configuration system, customize your configuration-only runtime environment. Perform customization as follows:

- Customize the following RTEDEF members to reflect settings on the target system:
  - Members **KDS\$PARM**, **KGW\$PARM**, and **GBL\$PARM** were created using default values from the configuration system. You must review the parameter values in these members to reflect the appropriate settings for the target system.
  - In the other *Kpp\$PARM* or *Kpp\$lpar* members, specify the high-level qualifiers needed and features enabled.

**Important:** There are some limitations regarding the parameters that can be customized. Certain parameters are not allowed in the respective RTEDEF members. For the list of parameters, see [“Parameters that cannot be customized for remote deployment” on page 350](#).

- Customize the following RTEDEF member to reflect settings on the configuration system:
  - In member **PCK\$PARM**, you must provide z/OS® UNIX® System Services paths for allocating the runtime environment data sets or z/OS® UNIX® directories on the configuration system.

**Important:** Because these values are used to generate the runtime members on the configuration system in the next step, you must specify valid local values for parameters **KFJ\_LOCAL\_USS\_RTEDIR** and **KFJ\_LOCAL\_USS\_TKANJAR\_PATH**.

**Tip:** The settings in RTEDEF (**PCK\$PARM**) are applicable for all runtime environments configured in the RTEDEF data sets; that is, for all runtime environments of the respective SYSPLEX. If you want to use a different local high-level qualifier for a specific target system on the configuration system, you can create member RTEDEF (*PCK\$lpar*) by copying RTEDEF (**PCK\$PARM**) and making the respective changes.

## 5. GENERATE action

On the configuration system, use the **GENERATE** action to generate runtime members for the runtime environment using the configured parameters. The runtime members are for the runtime environment that will be deployed to the target system and is being configured on the configuration system.

Include the following parameters:

### RTE\_NAME

Specify the name of the runtime environment that will be active on the target system. Use the same value specified in the **CREATE** action.

### RTE\_PLIB\_HILEV

Specify the high-level qualifier for the runtime definition (RTEDEF) library to be used on the target system. Use the same value specified in the **CREATE** action.

### KFJ\_LOCAL\_PLIB\_HILEV

Specify the high-level qualifier of the local libraries on the configuration system. Use the same value specified in the **CREATE** action.

### KFJ\_SYSNAME

Specify the target system. The value is the SYSNAME or LPAR name, or the SYSSMFID if the LPAR name is longer than four characters. You must specify this parameter for the **DISCOVER**-generated members *Kpp@lpar* and *SYS@lpar* to be used.

ACTION	GENERATE
RTE_NAME	RTEB
RTE_PLIB_HILEV	PROD.OMEG
KFJ_LOCAL_PLIB_HILEV	DEV.OMEG
KFJ_SYSNAME	SYSB

## Results

The **GENERATE** action creates numerous runtime environment data sets and members in the local libraries on the configuration system using the value specified in **KFJ\_LOCAL\_PLIB\_HILEV** as the high-level qualifier. The parameters in the runtime members are configured to run on the target system using the **RTE\_PLIB\_HILEV** parameter value as the high-level qualifier.

**Important:** The configuration runtime environment cannot run on the configuration system. The configuration settings are for the target system.

In this example, the runtime environment data sets and members are generated in the local libraries on the configuration system using the high-level qualifiers DEV.OMEG and the settings defined in DEV.OMEG.RTEDEF, including the PCK\$PARM member. The following data sets are generated and populated:

```
DEV.OMEG.*
DEV.OMEG.RTEB.*
```

The content of the members point to the target system, as shown, for example, in member DEV.OMEG.RTEB.RKANPARU(KPQHINIT):

```
PDSV1=OFF
PDSV2=ON
DSNHILEV=PROD.OMEG.RTEB
VOLUME=
STORCLAS=
MGMTCLAS=
DATACLAS=
ALLOC_TYPE=CYL
```

The **GENERATE** action also maps the high-level qualifiers and z/OS® UNIX® System Services paths in the local libraries on the configuration system to the runtime libraries on the target system. You can see the mapping results in the **GENERATE** job output in the KCIPRINT DD.

**Note:** If you use **OPTION DEBUG** with the **GENERATE** action, the mapping results are retained in the KFJSDIFM DD in the job output.

The following figure shows the mapping table that was used in this example:

```

KFJ00211I Configuration Manager is allocating data sets using local settings for high level qualifiers and z/OS UNIX system services paths
Configuration LPAR high level qualifiers and z/OS UNIX system services paths | Target LPAR high level qualifiers and z/OS UNIX system services paths
-----|-----
KFJ_LOCAL_PLIB_HILEV          DEV.OMEG          RTE_PLIB_HILEV      PROD.OMEG
KFJ_LOCAL_HILEV              DEV.OMEG          RTE_HILIV           PROD.OMEG
KFJ_LOCAL_VSAM_HILEV         DEV.OMEG          RTE_VSAM_HILEV      PROD.OMEG
KFJ_LOCAL_PDS_HILEV          DEV.OMEG.RTEB     RTE_PDS_HILEV
KFJ_LOCAL_TARGET_HILEV       DEV.ZSMS21R.SMPE  GBL_TARGET_HILEV    PROD.ZSMS21R.SMPE
KFJ_LOCAL_SMS_VOLUME         RTE_SMS_VOLUME
KFJ_LOCAL_SMS_VSAM_VOLUME    RTE_SMS_VSAM_VOLUME
KFJ_LOCAL_SMS_UNIT           RTE_SMS_UNIT
KFJ_LOCAL_SMS_STORCLAS       RTE_SMS_STORCLAS
KFJ_LOCAL_SMS_VSAM_STORCLAS  RTE_SMS_VSAM_STORCLAS
KFJ_LOCAL_SMS_MGMTCLAS       RTE_SMS_MGMTCLAS
KFJ_LOCAL_SMS_VSAM_MGMTCLAS  RTE_SMS_VSAM_MGMTCLAS
KFJ_LOCAL_USS_RTEDIR         /dev/rtehome      RTE_USS_RTEDIR      /prod/rtehome
KFJ_LOCAL_USS_TKANJAR_PATH   /dev/my/smpe      GBL_USS_TKANJAR_PATH /prod/my/smpe
KFJ_LOCAL_USS_TKAYHFS_PATH   /dev/my/smpe      GBL_USS_TKAYHFS_PATH /prod/my/smpe

```

Figure 67: Local library mapping to target system (in KCIPRINT DD)

## 6. PACKAGE action

On the configuration system, run the **PACKAGE** action to build transferable dump data sets.

Include the following parameters:

### RTE\_NAME

Specify the name of the runtime environment that will be active on the target system. Use the same value specified in the **CREATE** action.

### RTE\_PLIB\_HILEV

Specify the high-level qualifier for the runtime definition (RTEDEF) library to be used on the target system. Use the same value specified in the **CREATE** action.

### KFJ\_LOCAL\_PLIB\_HILEV

Specify the high-level qualifier of the local libraries on the configuration system. Use the same value specified in the **CREATE** action.

ACTION	PACKAGE
RTE_NAME	RTEB
RTE_PLIB_HILEV	PROD.OMEG
KFJ_LOCAL_PLIB_HILEV	DEV.OMEG

**Note:** (Optional) You can use parameter **KFJ\_PACK\_HILEV** with the **PACKAGE** action to specify a custom high-level qualifier for the output package data sets, which can be useful to distinguish the package data sets from the many runtime environment data sets in the local libraries.

## Results

The **PACKAGE** action allocates the following package data sets:

```

kfj_local_plib_hilev.rte_name.PACKxx.DMP
kfj_local_plib_hilev.rte_name.PACKMD

```

where *xx* is MN (Main non-VSAM), MV (Main VSAM), HN (History non-VSAM), or HV (History VSAM).

**Note:** If you included parameter **KFJ\_PACK\_HILEV**, the specified value is used as the high-level qualifier of the package data sets.

For more information about the package data sets, see “**PACKAGE**” on page 265.

In this example, the following package data sets are created:

```
DEV.OMEG.RTEB.PACKxx.DMP
DEV.OMEG.RTEB.PACKMD
```

## 7. Manual steps to transfer your package data sets to the remote system

Transfer the package data sets from the configuration system to the target system using the procedure of your choice (for example, FTPS). Make sure to transfer both the DMP and PACKMD data sets. You can rename the high-level qualifier of the data sets if necessary.

In this example, the high-level qualifier of the package data sets is renamed from DEV.OMEG on the configuration system to TRNSFER.OMEG on the target system.

## 8. DEPLOY on target system

On the target system, use the **DEPLOY** action to restore the package data sets that have been transferred from the configuration system.

Include the following parameters:

### RTE\_NAME

Specify the name of the runtime environment that will be active on the target system. Use the same value specified in the **CREATE** action.

### RTE\_PLIB\_HILEV

Specify the high-level qualifier for the runtime definition (RTEDEF) library to be used on the target system. Use the same value specified in the **CREATE** action.

### KFJ\_PACK\_HILEV

Specify the high-level qualifier of the package data sets on the target system. This parameter is required if the high-level qualifier does not match the **RTE\_PLIB\_HILEV** parameter value.

ACTION	DEPLOY
RTE_NAME	RTEB
RTE_PLIB_HILEV	PROD.OMEG
KFJ_PACK_HILEV	TRNSFER.OMEG

## Results

The **DEPLOY** action restores the package data sets with the **KFJ\_PACK\_HILEV** parameter value as the high-level qualifier to data sets with the **RTE\_PLIB\_HILEV** parameter value as the high-level qualifier. The restored data sets constitute the deployed runtime environment.

In this example, package data sets TRNSFER.OMEG.RTEB.PACKxx.DMP are restored to runtime data sets with high-level qualifier PROD.OMEG. The PROD.OMEG data sets are the runtime libraries for the deployed runtime environment.

**Note:** Although the PACKMD metadata file itself is not restored, the **DEPLOY** action requires the PACKMD file when local libraries are used for remote deployment.

## 9. Manual steps to adjust or copy your started task procedures

On the target system, adjust or copy your started task procedures.

## Parameters that cannot be customized for remote deployment

You cannot customize some parameters when you are creating a runtime environment for remote deployment.

The following table ([“Parameters that cannot be customized for a remote deployment runtime environment” on page 351](#)) lists the parameters that you cannot customize when you are creating a runtime environment for remote deployment.

During the **GENERATE** action, if any of these parameters are explicitly specified in the RTEDEF members, message **KFJ00213E** is issued in KCIPRINT and the workflow stops. To continue, you must remove these parameters from the RTEDEF data set members and re-run the **GENERATE** action.

<i>Table 50: Parameters that cannot be customized for a remote deployment runtime environment</i>	
<b>Product or component</b>	<b>Parameter</b>
Global parameters	GBL_USER_JCL
IBM OMEGAMON for CICS	KC2_HSnn_CLASSIC_VSAM_VOLUME KC2_HSnn_CLASSIC_VSAM_STORCLAS KC2_HSnn_CLASSIC_VSAM_MGMTCLAS KC2_HSnn_CLASSIC_VSAM_DATACLAS
IBM Z® OMEGAMON® AI for Db2 (5.4.0 and later versions) <sup>3</sup>	KD2_OMPE_DSHLQ KD2_OMPE_UNIT KD2_OMPE_VOLUME KD2_OMPE_STOCLAS KD2_OMPE_MGMTCLAS KD2_OMPE_VSAM_DSHLQ KD2_OMPE_VSAM_VOLUME KD2_OMPE_VSAM_STOCLAS KD2_OMPE_VSAM_MGMTCLAS  KD2_PFn_HIS_DYN_DSNAME KD2_PFn_HIS_DYN_VOLUME KD2_PFn_HIS_DYN_UNIT KD2_PFn_HIS_DYN_SCLAS KD2_PFn_HIS_DYN_MCLAS KD2_PFn_HIS_SEQ_ARC_DS KD2_PFn_HIS_SEQ_ARC_VOLU KD2_PFn_HIS_SEQ_ARC_UNIT KD2_PFn_HIS_SEQ_ARC_SCLA KD2_PFn_HIS_SEQ_ARC_MCLA KD2_PFn_HIS_GDG_DSNAME KD2_PFn_HIS_GDG_VOLUME KD2_PFn_HIS_GDG_UNIT KD2_PFn_HIS_GDG_SCLAS KD2_PFn_HIS_GDG_MCLAS KD2_PFn_AEXCP_D2TPTDSN KD2_PFn_AEXCP_D2TPLDSN KD2_PFn_AEXCP_D2TPFDSN KD2_PFn_AEXCP_D2TPVL KD2_PFn_AEXCP_D2TPTFSC KD2_PFn_AEXCP_D2TPTFMC
IBM OMEGAMON® for Db2 Performance Expert on z/OS 5.5.0 <sup>3</sup>	KD2_PFn_HIS_VSAM_VOLUME KD2_PFn_HIS_VSAM_SCLAS KD2_PFn_HIS_VSAM_MCLAS KD2_PFn_HIS_SEQ_VOLUME KD2_PFn_HIS_SEQ_UNIT KD2_PFn_HIS_SEQ_SCLAS
IBM Tivoli OMEGAMON® XE for Db2 Performance Expert on z/OS 5.4.0 <sup>3</sup>	KD2_PFn_HIS_LOGn KD2_PFn_HIS_VSAM_VOLUMEn KD2_PFn_HIS_VSAM_SCLASn KD2_PFn_HIS_VSAM_MCLASn  KD2_PFn_HIS_SEQLOGx KD2_PFn_HIS_SEQ_VOLUMEx KD2_PFn_HIS_SEQ_UNITx KD2_PFn_HIS_SEQ_SCLASx KD2_PFn_HIS_SEQ_MCLASx where x is 1 to 7
IBM OMEGAMON for Messaging on z/OS	KQI_HFS_HFSROOT_DIR1
IBM OMEGAMON for Storage on z/OS	KS3_APP_ZFS_DIR

Product or component	Parameter
IBM Z OMEGAMON Monitor for z/OS 5.6.0	KM2_HIST_DSTOR_RKM2EDS_DSN $x$ (where $x$ is 1 to 7)
IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics Agent	KYN_XAI01_SUBAGENT_PRODHOME

## Using SMP/E target library copies

Use the Configuration Manager *target copy* feature to create one or more copies of your SMP/E target libraries, from which you can create or update your runtime environments.

**Tip:** If you are moving from PARMGEN to Configuration Manager, the Configuration Manager target copy feature provides an alternative to the PARMGEN base library feature.

### Define SMP/E target copy settings

Create a member in your RTEDEF library to contain your SMP/E target copy settings, and update the settings as needed.

#### Before you begin

The Configuration Manager target copy feature is used to create and maintain one or more copies of your SMP/E target libraries, from which you can create or update your runtime environments.

The first step in setting up the use of an SMP/E target library copy is to create a dedicated member in your RTEDEF library that will contain the target copy settings. To review the initial content of the SMP/E target copy member that will be created in this task, see [“RTEDEF\(trg\\_copy\\_name\)” on page 328](#).

#### About this task

You use the **CREATE** action with option **TRGCOPY** to create and initially populate a member in an RTEDEF library specifically for SMP/E target copy settings.

The **CREATE** action supports the following settings when creating the SMP/E target copy member:

##### OPTION TRGCOPY

Creates a target copy member inside the RTEDEF library. The member is named using the **TRG\_COPY\_NAME** parameter.

##### TRG\_COPY\_NAME

Specifies the name of the member to create in the RTEDEF data set to contain the SMP/E target copy settings. If the specified member already exists, it is not overwritten.

##### TRG\_COPY\_HILEV

(Optional) Specifies the high-level qualifier for the target copy data sets. If not specified, the **RTE\_PLIB\_HILEV** parameter value is used.

##### RTE\_PLIB\_HILEV

Specifies the high-level qualifier of the RTEDEF library; if the RTEDEF data set does not exist, it is created. This parameter value is also used as the default value for the high-level qualifier for the target copy data sets if **TRG\_COPY\_HILEV** is not specified.

After the member has been created, you must then review and update the settings, as needed. For more information about the created member, see [“RTEDEF\(trg\\_copy\\_name\)” on page 328](#).

<sup>3</sup> The list of parameters for IBM Z® OMEGAMON® AI for Db2 (formerly named IBM OMEGAMON® for Db2 Performance Expert on z/OS) cannot be customized if **KFJ\_LOCAL\_KD5\_RUN\_ALLOC** is specified with the value GENERATE. If you want to customize these parameters, then use the value DEPLOY or NONE.

## Procedure

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **CREATE** action.
2. Specify **OPTION TRGCOPY**.
3. Specify a value for required parameter **TRG\_COPY\_NAME** to use as the name of the target copy member.
4. Specify the high-level qualifier of the RTEDEF in parameter **RTE\_PLIB\_HILEV**.
5. (Optional) Specify a value for parameter **TRG\_COPY\_HILEV** to use as the high-level qualifier for the target copy data sets.
6. Run the KFJJMCM job to create the SMP/E target copy member in the RTEDEF data set. Job messages for the **CREATE** action are written to the KCIPRINT SYSOUT data set.
7. Review and update the RTEDEF (*trg\_copy\_name*) member, as needed.

The following JCL job creates the SMP/E target copy member MYCOPY in data set TSUID.PROD.RTEDEF. If the specified RTEDEF data set does not exist, it is created. If the specified member already exists, it is not overwritten.

Figure 68: Example JCL to create the SMP/E target copy member

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
*
ACTION                CREATE
OPTION                 TRGCOPY
TRG_COPY_NAME         MYCOPY
RTE_PLIB_HILEV       TSUID.PROD
/*
```

Figure 69: Example SMP/E target copy member

```
* High-level qualifier of SMP/E target libraries
GBL_TARGET_HILEV      MONSUITE

* SMP/E target directory containing TKANJAR files (KGW, KJJ)
GBL_USS_TKANJAR_PATH  "/usr/lpp/kan/bin/IBM"

TRG_COPY_NAME        MYCOPY
* High-level qualifier of the copy of SMP/E target libraries
TRG_COPY_HILEV       TSUID.PROD
* Directory for a copy of SMP/E TKANJAR files (KGW, KJJ)
TRG_COPY_TKANJAR_PATH "/var/rtehome/MYCOPY/kan/bin/IBM"
* Directory for a copy of SMP/E TKAYHFS files (KAY)
TRG_COPY_TKAYHFS_PATH "/var/rtehome/MYCOPY/kay"

CONFIGURE_TEMS_KDS           Y * TEMS
CONFIGURE_E3270UI_KOB        Y * Enhanced 3270
CONFIGURE_CICS_KC5           Y * CICS TS
CONFIGURE_CICS_TG_KGW        Y * CICS TG
CONFIGURE_DB2_Agent_KD5      Y * Db2
CONFIGURE_IMS_KI5            Y * IMS
CONFIGURE_JVM_KJJ            Y * JVM
CONFIGURE_ZOS_KM5            Y * z/OS
CONFIGURE_MESSAGING_KMQ      Y * MQ
CONFIGURE_MESSAGING_KQI      Y * Integration Bus
CONFIGURE_NETVIEW_KNA        Y * Netview
CONFIGURE_MFN_KN3            Y * Network
CONFIGURE_STORAGE_KS3        Y * Storage
CONFIGURE_OMEGAVIEW_KWO      Y * Integration Monitor
CONFIGURE_ITCAMAD_KYN        Y * ITCAM for Applications
CONFIGURE_ACM_KRN            Y * Advanced Catalog Mgmt
CONFIGURE_Ard_KRH            Y * Advanced Rpt and Mgmt
CONFIGURE_AAD_KRG            Y * Advanced Audit
CONFIGURE_AAM_KRJ            Y * Advanced Alloc Mgmt
CONFIGURE_ATAM_KRK           Y * Automated Tape Alloc
CONFIGURE_ABR_KRV            Y * Advanced Backup and Rec
CONFIGURE_ODP_KAY            Y * Data Provider
```

## What to do next

Use the new target copy member to make a copy of your SMP/E target libraries. See [“Copy SMP/E target libraries”](#) on page 354.

**Note:** Make sure to carefully review your target copy settings before continuing with the next step.

## Copy SMP/E target libraries

Make a copy of your SMP/E target libraries using your defined SMP/E target copy settings.

### Before you begin

The Configuration Manager target copy feature is used to create and maintain a copy of your SMP/E libraries, from which you can create or update your runtime environments.

Before you can copy the libraries, you must have created and updated your SMP/E target copy settings, as described in [“Define SMP/E target copy settings” on page 352](#). You can then use your defined settings to copy the libraries, as described in this task.

**Important:** Make sure you have carefully reviewed your target copy settings before continuing with this task.

### About this task

You use the **GENERATE** action with option **TRGCOPY** to copy your SMP/E target libraries from the original source to a new set of data sets, as defined in your SMP/E target copy settings in member RTEDEF (*trg\_copy\_name*).

Data sets for the copy of the SMP/E target libraries are allocated with the name *trg\_copy\_hilev.trg\_copy\_name*. Target copy libraries are always non-VSAM. Only the files for the products installed in your environment, as specified by the **CONFIGURE\_\*** flags in the RTEDEF (*trg\_copy\_name*) member, are copied.

When used to copy SMP/E target libraries, the **GENERATE** action supports the following settings

#### OPTION TRGCOPY

Creates a copy of your SMP/E target libraries from the original source to a new set of data sets, as defined in member RTEDEF (*trg\_copy\_name*).

#### TRG\_COPY\_NAME

Specifies the name of the member in the RTEDEF data set that contains the SMP/E target copy settings.

#### RTE\_PLIB\_HILEV

Specifies the high-level qualifier of the RTEDEF library.

### Procedure

1. Modify the KFJJMCM sample job in TKANSAM (see example below) to select a **GENERATE** action.
2. Specify **OPTION TRGCOPY**.
3. Specify the name of the target copy member for required parameter **TRG\_COPY\_NAME**.
4. Specify the high-level qualifier of the RTEDEF in parameter **RTE\_PLIB\_HILEV**.
5. Run the KFJJMCM job to copy your SMP/E target libraries from the original source to a new set of data sets.  
Job messages for the **GENERATE** action are written to the KCIPRINT SYSOUT data set.

The following JCL job copies SMP/E target libraries from the original source to a new set of data sets, as defined in the SMP/E target copy member MYCOPY in data set TSOUID.PROD.RTEDEF. In this example, new data sets are allocated using the high-level qualifier TSOUID.PROD.MYCOPY. The number of data sets copied depends on the products selected for configuration in the target copy member.

**Important:** The high-level qualifier for the data set name specified in the KCIFLOW DD statement must match the **GBL\_TARGET\_HILEV** parameter value that is specified in the RTEDEF (*trg\_copy\_name*) member.

Figure 70: Example JCL to copy SMP/E target libraries

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUIE.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=MONSUIE.TKANCUS.(KFJOMEGA)
//KCIVARS DD *
ACTION GENERATE
OPTION TRGCOPY
TRG_COPY_NAME MYCOPY
RTE_PLIB_HILEV TSUID.PROD
/*
```

## What to do next

You can use the copy of the SMP/E target libraries to create or update your runtime environments.

## Create a target copy for an existing runtime environment

Use this procedure to configure an existing runtime environment to use a copy of SMP/E target libraries.

### Before you begin

This procedure builds upon information provided in the following topics:

- [“Define SMP/E target copy settings” on page 352](#)
- [“Copy SMP/E target libraries” on page 354](#)

You can review these topics for additional details.

### About this task

The following procedure provides the steps to update your existing runtime environment to use a copy of SMP/E target libraries instead of original SMP/E target libraries.

### Procedure

1. Create the target copy member by running the **CREATE** action with **OPTION TRGCOPY** and the following additional settings:
  - Include the **RTE\_PLIB\_HILEV** parameter, which must point to an existing RTEDEF data set.
  - Include the **TRG\_COPY\_NAME** parameter, which must specify a new member name, one that does not exist in the RTEDEF data set.

For more details, see [“Define SMP/E target copy settings” on page 352](#).

2. After new member RTEDEF (*trg\_copy\_name*) has been created, review the settings in the member and update as needed.

**Note:** Make sure to review parameter **TRG\_COPY\_HILEV** in the new member, which specifies the high-level qualifier for the SMP/E target library copy.

3. Create the copy of the SMP/E target libraries by running the **GENERATE** action with **OPTION TRGCOPY** and the following additional settings:
  - Include the **RTE\_PLIB\_HILEV** parameter, which must point to an existing RTEDEF data set.
  - Include the **TRG\_COPY\_NAME** parameter, which must specify the name of the newly created member.

For more details, see [“Copy SMP/E target libraries” on page 354](#).

4. After the **GENERATE** action has completed and the SMP/E target libraries have been copied to the new location, make the following updates:
  - a. Update parameter **GBL\_TARGET\_HILEV** in member RTEDEF (GBL\$PARM) or RTEDEF (GBL\$lpar) to point to the newly created copy of the SMP/E target libraries.

- b. If parameter **GBL\_USS\_TKANJAR\_PATH** parameter is required for your runtime environment, update the **GBL\_USS\_TKANJAR\_PATH** parameter to use the value from **TRG\_COPY\_TKANJAR\_PATH** in member RTEDEF (*trg\_copy\_name*).
5. Run the **GENERATE** action for the modified runtime environment.
6. Perform standard post-configuration steps, such as copying generated started tasks into a site-specific location.
7. (Optional) You can repeat steps 1 through 3 to create multiple copies of your SMP/E target libraries, which you can use to apply a staged rollout of maintenance for an existing runtime environment.

## Maintain SMP/E target library copies

Keep the copy of your SMP/E target libraries up to date.

### Before you begin

The Configuration Manager target copy feature is used to create and maintain one or more copies of your SMP/E target libraries, from which you can create or update your runtime environments.

After you have created a copy of your SMP/E target libraries using the target copy feature, as described in [“Copy SMP/E target libraries”](#) on page 354, you can refresh the copy as needed, as described in this task.

### About this task

You use the **GENERATE** action with option **TRGCOPY** to refresh the copy of your SMP/E target libraries.

### Procedure

- To keep the SMP/E target copy in sync with your original SMP/E target libraries, simply run the **GENERATE** action with option **TRGCOPY** again. It will refresh all the libraries and will copy all the required members from your SMP/E target libraries to a copy of the SMP/E target libraries.

## How-tos using Configuration Manager

*How-tos* provide some best practices and instructions for performing specific tasks. The topics in this section tell you *how to* perform these tasks using Configuration Manager. These instructions are meant to help you complete commonly used processes.

### How to: Migrate to Configuration Manager from PARMGEN

You can migrate a runtime environment that is configured with PARMGEN to one that is configured with Configuration Manager.

To perform the migration, use the Configuration Manager **MIGRATE** action. The **MIGRATE** action imports configuration settings from a runtime environment that is configured with PARMGEN to one that is configured with Configuration Manager.

For more information about moving from PARMGEN to Configuration Manager, see the following topics:

- [Best practices for configuring OMEGAMON products and components](#)
- [PARMGEN: Rectifying your PARMGEN configuration](#)
- [Configuration Manager: Comparison with PARMGEN](#)
- [Configuration Manager: Parameters with different default values than PARMGEN](#)
- [Configuration Manager: MIGRATE](#)

### How to: Add a new agent or product to a runtime environment

This topic describes how to add a new agent or product to an existing runtime environment using Configuration Manager.

## About this task

To add a new agent or product to a runtime environment, you create new members for product-specific parameters in the existing runtime environment definition (RTEDEF) library.

## Procedure

1. Run the JCL with the **CREATE** action. The **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters should point to an existing RTEDEF library (the one you want to modify). See [“CREATE” on page 239](#) for more information.

If you want to use override embed members, you should also specify Y for that parameter, for example, **KFJ\_USE\_EMBEDS Y**. See [“Using override embed members in Configuration Manager” on page 337](#) for more information.

The first step is to create new members in the RTEDEF library (for example, **KDS\$PARM**), if necessary, where you can set product specific parameters. This step will also copy new override embed members and security exits (if there are any).

**Note:** If the **Kpp\$PARM** member was not created for a new product, that means there are no mandatory or best practice parameters to set. However, if you want to add custom parameters, create the **Kpp\$PARM** member in the RTEDEF library and add custom parameters.

2. When step 1 is complete, manually update the RTEDEF (*rte\_name*) member and specify which agent or product to configure. For example, to configure the KD5 agent, set the **CONFIGURE\_DB2\_AGENT\_KD5** parameter to Y. For the complete list of **CONFIGURE\_\*** parameters, see [“Parameters that determine what products are configured” on page 278](#).

**Note:** If you want to remove an existing agent, set the parameter to N. The primary benefit of the N setting is that less CPU and time is used as the respective product-specific workflows are bypassed.

3. Manually update RTEDEF (**GBL\$PARM**), if there are any initial mandatory parameters for the new product, such as load library names. See [“Parameters in the initial runtime environment configuration profile” on page 279](#) for information on how to add those parameters to **GBL\$PARM** and set correct values.
4. (Optional) Run JCL with the **DISCOVER** action. See [“DISCOVER” on page 242](#) for more information.
5. Run the **GENERATE** action to finalize RTE configuration. See [“GENERATE” on page 248](#) for more information.

## How to: Add OMEGAMON® Data Provider to a runtime environment

This topic describes how to add OMEGAMON® Data Provider to an existing runtime environment using Configuration Manager.

### Before you begin

You can add IBM Z® OMEGAMON Data Provider to an existing runtime environment by manually adding required parameters to your configuration, if the parameters are not present in the runtime environment definition (RTEDEF) library.

**Important:** If you are creating a new runtime environment, Configuration Manager includes the OMEGAMON® Data Provider parameters automatically, and you do not need to perform this task.

Before you begin, you need to know the SMP/E target locations where OMEGAMON® Data Provider is installed. In particular, you must know the z/OS® UNIX® System Services directory path specified by the SMP/E DDDEF **TKAYHFS**. The default path is **/usr/lpp/omdp**. For more information, see [Installing OMEGAMON Data Provider](#).

## About this task

To add OMEGAMON® Data Provider to an existing runtime environment, you perform the following actions:

- Add required parameters to members *rte\_name* and GBL\$PARM (or GBL\$*lpar*) in the runtime environment definition (RTEDEF) library.

You must set the following required parameters:

**CONFIGURE\_ODP\_KAY**

Enables or disables OMEGAMON® Data Provider configuration for the runtime environment

**GBL\_USS\_TKAYHFS\_PATH**

Sets the path to the z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKAYHFS

- For parameters that are specific to OMEGAMON® Data Provider, create new member KAY\$PARM (or KAY\$*lpar*) in the existing RTEDEF library.

You can optionally set the following parameters:

**For OMEGAMON Data Broker:**

**KAY\_BROKER\_MEMBER**

Sets the two-character value for the KAYSIP*nn* member name and the OMEGAMON Data Broker procedure MEM=*nn* parameter value

**KAY\_BROKER\_NAME**

Sets the OMEGAMON Data Broker name, which must match the name specified in the KAYOPEN member

**KAY\_BROKER\_STC**

Sets the OMEGAMON Data Broker procedure name

**For OMEGAMON Data Connect:**

**KAY\_CONNECT\_JAVA\_HOME**

Sets the path to the Java 17 installation directory

**Note:** Other Java versions are not supported.

**KAY\_CONNECT\_STC**

Sets the OMEGAMON Data Connect procedure name

Use the following procedure to add OMEGAMON® Data Provider to your existing runtime environment.

**Procedure**

1. In the RTEDEF library, edit member *rte\_name* and add parameter **CONFIGURE\_ODP\_KAY** with the value Y.
2. In the RTEDEF library, edit member GBL\$PARM (or GBL\$*lpar*) and add parameter **GBL\_USS\_TKAYHFS\_PATH** with the value set to the path of the z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKAYHFS.
3. (Optional) In the RTEDEF library, create member KAY\$PARM (or KAY\$*lpar*), if necessary, where you can set the following product-specific parameters:

**KAY\_BROKER\_MEMBER**  
**KAY\_BROKER\_NAME**  
**KAY\_BROKER\_STC**  
**KAY\_CONNECT\_JAVA\_HOME**  
**KAY\_CONNECT\_STC**

For example, after you create member KAY\$PARM, add the **KAY\_CONNECT\_JAVA\_HOME** parameter with a value that points to the Java 17 directory, as follows:

```
KAY_CONNECT_JAVA_HOME  "/path/to/Java/J17.0_64"
```

4. Run the **GENERATE** action to finalize the runtime environment configuration.

**Result**

The **GENERATE** action performs the following actions:

- Creates the following OMEGAMON® Data Provider procedures in library GBL\_DSN\_SYS1\_PROCLIB, which is (by default) `rte_plib_hilev.SYS1.PROCLIB`:
  - OMEGAMON Data Connect procedure OMEGODC
  - OMEGAMON Data Broker procedure OMEGODB
- Copies member KAYOPEN to runtime library `rte_hilev.rte_name.RKANPARU`

**Note:** Member KAYOPEN is copied only once and is never replaced.

- Copies member KAYSIP00 to global source library %GBL\_DSN\_GLOBAL\_SOURCE\_LIB%, which is (by default) `rte_hilev.rte_name.RKANPARU`

**Note:** Member KAYSIP00 is copied only once and is never replaced.

- Creates the following z/OS® UNIX® directories for the runtime environment:

**OMEGAMON Data Connect user directory**

- `rte_uss_rtedir/rte_name/kay/user/config`, which contains `connect.yaml` samples
- `rte_uss_rtedir/rte_name/kay/user/extensions`, an empty directory that is ready for optional OMEGAMON® Data Provider extensions

**OMEGAMON Data Connect installation directory**

- For full runtime environments (**RTE\_TYPE** parameter is set to FULL), Configuration Manager extracts the KAY11PAX archive to directory `rte_uss_rtedir/rte_name/kay/kay-110/`

## What to do next

After the Configuration Manager process completes, review [Getting started with OMEGAMON Data Provider](#) to perform other necessary steps.

To stream status information from the Tivoli Enterprise Monitoring Server to OMEGAMON® Data Provider, see [“\(Optional\) Configure situation status streaming”](#) on page 577.

## How to: Use a shared procedure for multiple monitoring servers

You can configure your environment to use the same started task procedure for multiple monitoring servers across different systems in the sysplex. This topic explains how to perform this task using either Configuration Manager or PARMGEN.

### Before you begin

A Tivoli Enterprise Monitoring Server (*monitoring server*) can be configured as one of several types: hub, high-availability hub, remote. By default, the started task procedure for each monitoring server is created to be run as a separate task. The generated procedure is different for each monitoring server by type; for example, the name of the runtime environment, the data set names, and the required DD statements can all vary by monitoring server type.

This default configuration is not suitable for some sites that might have any of the following requirements:

- The SYS1.PROCLIB (or equivalent procedure library) must be shared across all the systems in the sysplex.
- Only a single, specific agent procedure is allowed (that is, only one procedure per agent).

To satisfy such requirements, you must use a procedure that is the same for all monitoring servers across all systems; it must have the same name, the same contents, and reference the same data sets. To accomplish this setup, you can configure your environment to generate a *shared procedure*.

This topic explains how to generate a shared procedure for use with multiple monitoring servers using either Configuration Manager or PARMGEN.

### About this task

This task requires the use of the following parameter:

### **KDS\_TEMS\_PROC\_SHARED**

This flag specifies if the monitoring server procedure can be shared among different systems in the sysplex. When the flag is set to Y, the same procedure is generated for a hub monitoring server or a remote monitoring server, and the procedure can be copied to a shared SYS1 . PROCLIB. The default value for this parameter is N.

The use of system variables is also required.

Use the following steps to create a shared procedure for use with multiple monitoring servers.

## **Procedure**

1. Set the flag parameter that enables the generation of a monitoring server procedure that can be shared:
  - Using Configuration Manager: Add parameter **KDS\_TEMS\_PROC\_SHARED** set to Y to RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar), and then run the **GENERATE** action.
  - Using PARMGEN: In WCONFIG (*rte\_name*), set parameter **KDS\_TEMS\_PROC\_SHARED** to Y, and then run the **\$PARSE** job.

**Note:** For more information about making these changes using PARMGEN, see [Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults](#).

2. Review the generated procedure, and proceed as appropriate:
  - If you use system variables in your runtime environment configuration, including a system variable for **RTE\_NAME**, the generated procedure is ready to be shared.
  - If you do not use system variables in your runtime environment configuration, you can use the generated procedure as a shared procedure if there is a variable in your PARMLIB system symbol list that corresponds to your **RTE\_NAME** values across all the LPARs in the sysplex. To enable the procedure to be shared, update the following lines:

```
//TEMS PROC RGN=0M,TIM=1440,MEMLIM=NOLIMIT,  
//          SYS=&SYSNAME . ,
```

In this example, **&SYSNAME .** resolves to an **RTE\_NAME** on each system where it is started.

3. Copy the shared started task procedure to your system library.

## **How to: Create a high-availability hub monitoring server**

You can ensure continuous availability in your monitoring environment by using a high-availability hub monitoring server. This task describes how to create a high-availability hub monitoring server using Configuration Manager.

### **Before you begin**

A configuration that includes a [high-availability hub](#) is resilient and efficient. It is resilient because the high-availability hub can be relocated to any LPAR in the sysplex with minimal disruption to the other components. The configuration is efficient because the remote monitoring server on the same LPAR as the hub handles all communications with the monitoring agents and thus reduces the load on the hub. If your environment supports the requirements for a high-availability hub, you should configure one.

A high-availability hub Tivoli Enterprise Monitoring Server has the following requirements:

- Must reside on z/OS.
- Must be configured in a sysplex. A high-availability hub is not defined to run on any specific system.
- Must use runtime libraries stored on shared DASD. This setup allows the high-availability hub to start on any LPAR in the sysplex without requiring replication of the libraries.

- Must be configured in its own runtime environment, without any monitoring agents configured in the runtime environment. The high-availability hub can be configured on the same LPAR with a remote monitoring server.
- Must have a dynamic virtual IP address (DVIPA). Using a DVIPA allows the high availability hub to respond to the same IP address on any LPAR in the sysplex. The DVIPA must be defined on each LPAR that is a candidate for the high-availability hub. It is recommended that you use the VIPADEFINE statement to designate the DVIPA. For more information, see *z/OS Communications Server: IP Configuration Reference: VIPADYNAMIC - VIPADEFINE statement*.

Additionally, it is recommended that system variables are not used in the runtime environment for the high-availability hub. The high-availability hub retains the same parameter values on any system in the sysplex.

## About this task

To create a high-availability hub monitoring server using Configuration Manager, you must isolate the configuration settings for the monitoring server in a separate runtime environment definition (RTEDEF) library.

Use the following parameters to configure a high-availability hub monitoring server:

- **RTE\_TCP\_HOST**
- **KDS\_TEMS\_TYPE**
- **KDS\_TEMS\_HA\_TYPE**
- **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST**
- **KDS\_PH01\_TEMS\_TCP\_HOST**

Complete the following steps to create a high-availability hub monitoring server.

## Procedure

1. Run the **CREATE** action to create an initial set of parameters in a new RTEDEF library for the high-availability hub runtime environment.

**Note:** Any generated members other than the global (**GBL\_\***) and monitoring server (**KDS\$\***) members can be removed.

2. Update the RTEDEF (*rte\_name*) member, as follows:
  - Ensure that the runtime environment contains only the high-availability hub monitoring server by setting the following parameter to Y:

```
CONFIGURE_TEMS_KDS          Y
```

All other **CONFIGURE\_\*** parameters are set to N.

- Specify the address where the runtime environment is being defined:

```
RTE_TCP_HOST                dvipa
```

where *dvipa* is the DVIPA for the high-availability hub.

3. Update the RTEDEF (KDS\$PARM) member to include the following parameters and values:

```
KDS_TEMS_TYPE                HUB
KDS_TEMS_HA_TYPE              HA
KDS_TEMS_TCP_KDEB_INTERFACELIST  !dvipa

KDS_PH                        BEGIN
KDS_PH01_ROW                  01
KDS_PH01_TEMS_TCP_HOST        dvipa
KDS_PH                        END
```

where *dvipa* is the DVIPA for the high-availability hub.

4. Use the **GENERATE** action to create runtime members for the high-availability hub runtime environment.

## How to: Configure passphrase and MFA support in the OMEGAMON 3270 Classic interface

In addition to using a regular password, you can also log on securely to the OMEGAMON 3270 Classic interface using a password phrase (passphrase) and multi-factor authentication (MFA). Some configuration steps are necessary to enable passphrase and MFA support for the OMEGAMON 3270 Classic interface. This topic explains how to perform this task using either Configuration Manager or PARMGEN.

### Before you begin

A traditional mainframe password is eight bytes or less, while a passphrase is from nine to 100 bytes. MFA is an authentication method that typically requires a six-digit volatile numeric token that is paired with a password or passphrase value. A user ID must be set up in the security system to use a passphrase.

**Note:** Your security administrator must set up the user ID to use a passphrase. For RACF, use the PHRASE operand with the [ADDUSER](#) or [ALTUSER](#) command. For a security product other than RACF, refer to the documentation for that product for guidance on the equivalent actions.

On a 3270 screen, depending on the screen width, entering a long passphrase value into a field might require multiple lines. For example, if the screen width is 80 bytes, an input field would require multiple lines to support a value longer than 80 bytes. For a wider screen size, you can support a longer value on a single line, up to the available screen width.

On the OMEGAMON 3270 Classic interface logon screen, by default, the password fields support passwords that are eight bytes or less. Optionally, you can configure your product to support passphrase and MFA values for the OMEGAMON 3270 Classic interface; multiple settings are available. When passphrase support is enabled, configuration parameters are used to specify the SAF security class and SAF application ID to use for the OMEGAMON 3270 Classic interface.

**Important:** When passphrase support is enabled, OMEGAMON implements the SAF interface for external security without the use of security exits. For more information, see [OMEGAMON® 3270 Classic interface security](#).

### About this task

To use passphrase values and MFA for the OMEGAMON 3270 Classic interface, you must configure your product to enable passphrase support. Multiple passphrase configuration options are available that affect the length of the passphrase that is supported on a single line and the layout of the logon screen.

**Note:** It is recommended that you review the available configuration options, especially if you use programs to automate the logon process to the OMEGAMON 3270 Classic interface that rely on static placement of keywords and input fields.

Passphrase support for the OMEGAMON 3270 Classic interface is provided for the following products, listed with the respective product code:

- OMEGAMON for CICS (C2)
- OMEGAMON® AI for Db2 (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

Passphrase enablement and configuration is controlled by parameter **Kpp\_CLASSIC\_PASSPHRASE**, where *pp* is C2, D2, I2, or M2, depending on the supported product. When passphrase support is enabled, the SAF security class is defined by **Kpp\_CLASSIC\_SECCLASS** and the SAF application ID is defined by **Kpp\_CLASSIC\_SAFAPPL**, where *pp* is C2, D2, I2, or M2.

The following configuration options are available for passphrase support:

### Kpp\_CLASSIC\_PASSPHRASE

This parameter specifies the passphrase support setting for the OMEGAMON 3270 Classic interface.

**Note:** In the following figures, a ruler is shown on the screen. The ruler is included in the documentation for illustrative purposes only and is not displayed in the product.

#### PARTIAL

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of a single line. The minimum length of each of these fields is 34 bytes, and the maximum length (which can be up to 100 bytes) depends on the screen width. With this setting, the fields are aligned in the center of the screen, as shown in the following figure:

```
>
>          Copyright 1980-2022
>      IBM Corporation. All rights reserved.
>          Use permissible by license only.
>

          ENTER USERID ==>
            PASSWORD ==>
              GROUP ==>
            NEW PASSWORD ==>

          Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
1234567890123456789012345678901234567890123456789012345678901234567890
```

**Note:** Passphrase support for the OMEGAMON 3270 Classic interface is introduced with APAR OA57133 (PTF UA98944). With the PARTIAL setting, the input field labels and placement are compatible with the screen layout before passphrase support was introduced.

#### MAX62

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of a single line. The minimum length of each of these fields is 62 bytes, and the maximum length (which can be up to 100 bytes) depends on the screen width. With this setting, the fields are aligned at the left of the screen, as shown in the following figure:

```
>
>          Copyright 1980-2022
>      IBM Corporation. All rights reserved.
>          Use permissible by license only.
>

ENTER USERID ==>
  PASSWORD ==>
    GROUP ==>
  NEW PASSWORD ==>

          Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
1234567890123456789012345678901234567890123456789012345678901234567890
```

#### FULL

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of two lines. The value in the second line is concatenated onto the end of the value in the first line. The length of the first line is 34 bytes and the length of the second line is 66 bytes, allowing the maximum

passphrase value of 100 bytes to be entered. With this setting, the fields are aligned in the center of the screen, as shown in the following figure:

```
>
>          Copyright 1980-2022
>      IBM Corporation. All rights reserved.
>      Use permissible by license only.
>

          ENTER USERID ==>
          PASSWORD ==>

          GROUP ==>
          NEW PASSWORD ==>

          Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
123456789012345678901234567890123456789012345678901234567890
```

### NO or NONE

Passphrase support is not enabled. The lengths of the **PASSWORD** and **NEW PASSWORD** fields are eight bytes each. With this setting, if you have external security defined using a security exit, the fields are aligned in the center of the screen, as shown in the following figure:

```
>
>          Copyright 1980-2020
>      IBM Corporation. All rights reserved.
>      Use permissible by license only.
>

          ENTER USERID ==>
          PASSWORD ==>
          GROUP ==>
          NEW PASSWORD ==>

          Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
123456789012345678901234567890123456789012345678901234567890
```

**Note:** If you do not have external security defined, none of the fields for credentials appear on the logon screen.

Use the following procedure to enable passphrase and MFA support for your OMEGAMON 3270 Classic interface. If you do not want to use passphrase or MFA when logging on to the OMEGAMON 3270 Classic interface, no configuration changes are needed.

### Procedure

To enable passphrase support for your OMEGAMON 3270 Classic interface, perform the following steps for each of your supported OMEGAMON products. Use either of the following methods:

- Using Configuration Manager:
  - a. In RTEDEF(Kpp\$PARM) or RTEDEF(Kpp\$lpar), add the following parameters:
    - Kpp\_CLASSIC\_PASSPHRASE** set to value PARTIAL, MAX62, or FULL
    - Kpp\_CLASSIC\_SECCLASS** set to the OMEGAMON SAF security class
    - Kpp\_CLASSIC\_SAFAPPL** set to the OMEGAMON SAF application ID
  - b. Run the **GENERATE** action.

Recycle the OMEGAMON Classic started task for the configuration changes to take effect. See the product-specific documentation for more information.

**Note:** For more information about changing parameter values after you have completed configuration of the runtime environment using Configuration Manager, see [“Creating or updating a runtime environment” on page 229](#).

- Using PARMGEN:
  - a. In WCONFIG(*#rtename*), add the following parameters:
    - Kpp\_CLASSIC\_PASSPHRASE** set to value PARTIAL, MAX62, or FULL
    - Kpp\_CLASSIC\_SECCLASS** set to the OMEGAMON SAF security class
    - Kpp\_CLASSIC\_SAFAPPL** set to the OMEGAMON SAF application ID
  - b. Submit the \$PARSE job to refresh the profile.

Recycle the OMEGAMON Classic started task for the configuration changes to take effect. See the product-specific documentation for more information.

**Note:** For more information about changing parameter values after you have completed configuration of the runtime environment using PARMGEN, see [Scenario RTE03: Changing parameters in an RTE](#).

## Troubleshooting

Use these topics to troubleshoot issues with Monitoring Configuration Manager.

### Navigating Configuration Manager action output

Use the method described in this procedure to navigate Configuration Manager output when troubleshooting a problem.

#### Before you begin

Configuration Manager writes job output for the **KCIOMEGA** actions to a number of output data sets. Output from invoked utilities is also generated, with each utility writing to its own output data set.

**Note:** **KCIALPHA** is an APF-authorized version of the **KCIOMEGA** program. The information in this topic also applies when using **KCIALPHA**.

For a list of the standard sysout data sets, see [“Action job output” on page 275](#).

#### About this task

When troubleshooting an issue with Configuration Manager jobs, use the steps in the following procedure to navigate the Configuration Manager output.

To view Configuration Manager output, it is recommended that you use SDSF and the ? action character to list the output data sets. Consider sorting by DSID in SDSF to get the proper order.

Since most problems cause the Configuration Manager action to immediately stop, it is likely that the last utility invoked is the cause of the problem.

**Note:** For most problems, you do not need to examine the KCITRACE sysout data set as it is typically only required when there is a logic error in the workflow. KCITRACE is mostly used by IBM Software Support.

#### Procedure

1. View the KCIPRINT sysout data set, and look for the error message that explains why the problem occurred.

2. If the problem was caused by a utility, then scroll down to the end of the data set list and select the last file.  
This is typically the output from the failed utility and should provide more information about the problem.
3. In the event of a system problem (for example, an abend), then view JESMSGLG (the JES message log) and look for abnormal system messages.

## Collecting diagnostic data using PDCOLLECT

Use the Problem Determination Data Collection (PDCOLLECT) action to collect diagnostic information. This section explains how to perform this task using Configuration Manager.

**Important:** The Configuration Manager PDCOLLECT utility action was enhanced with [PTF UJ98129 for APAR OA68463 \(3Q25\)](#). The procedure that you use to run PDCOLLECT and the features that are available depend on whether this maintenance has been applied to your environment.

Use one of the following procedures, as appropriate for your environment.

### Using PDCOLLECT (with OA68463)

Use the Problem Determination Data Collection (PDCOLLECT) action to collect diagnostic information. This topic explains how to perform this task using Configuration Manager with APAR OA68463 applied.

### Before you begin

**Note:** The content in this topic is relevant only for environments with [PTF UJ98129 for APAR OA68463 \(3Q25\)](#) applied. If you do not have this maintenance applied, see [“Using PDCOLLECT \(without OA68463\)” on page 371](#).

To use the **PDCOLLECT** action, you must install SDSF and be licensed to use it.

**Note:** If you do not have SDSF, you can copy the complete address space logs, including the JES output, RKLVLG, RKPLOG, RKPLOG, SYSPRINT, and so on, into a data set. The DCB information for the output data set can be as follows:

```
Organization: PS
Record format: VB
Record length: 240
Block size: 27998
```

### About this task

The **PDCOLLECT** utility action collects the following types of diagnostic data:

- System configuration information
- Runtime environment (RTE) libraries, including configuration files
- Configuration Manager-related information (RTEDEF and EMBEDS data sets)
- Network information, such as output from the **netstat** utility
- Output from the started task jobs, including address space logs
- SDSF Display Active Users (DA) panel statistics
- Self-describing agent (SDA) information:
  - Results of **ls -al** for your `rte/kds/support` and `rte/kds/support/TEMS`

- Contents for `spawn_cmd.sh` and `spawn_cmd.tris`
- Results of `java - version`

The following list provides details about specifying collection criteria for the **PDCOLLECT** action:

- The **PDCOLLECT** action does not require the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters and values. Omitting the runtime environment information provided by these parameters limits the types of diagnostic data that the **PDCOLLECT** action can collect. To collect the most information available about your environment, include the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters and values.
- You must specify information about your OMEGAMON address space logs. The parameters you use depend on where the logs are located, as follows:
  - If your OMEGAMON address space logs are in the SDSF output queue, use the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameters and values. To collect data for a single job, specify the job name and job ID in parameters **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID**, respectively.

You can also capture multiple started task logs and SDSF Display Active Users (DA) panel snapshots by using filtering and wildcard characters. To specify multiple started task logs, enable filtering by specifying parameter **KFJ\_PDCOL\_JOB\_FILTER** set to Y. You can then use the asterisk (\*) and percent sign (%) as wildcard characters in the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameter values to define the filters, as shown in the following example. Only started task logs matching the filters will be collected.

<b>KFJ_PDCOL_JOB_NAME</b>	OMEG*
<b>KFJ_PDCOL_JOB_ID</b>	*
<b>KFJ_PDCOL_JOB_FILTER</b>	Y

**Tip:** When job filtering is enabled (**KFJ\_PDCOL\_JOB\_FILTER** set to Y), parameter **KFJ\_PDCOL\_JOB\_ID** defaults to the asterisk (\*) wildcard. If you accept this default value, you can omit parameter **KFJ\_PDCOL\_JOB\_ID** from your `KCIVARS DD` statement.

- If your OMEGAMON address space logs have been copied to a sequential data set, use the **KFJ\_PDCOL\_JOB\_OUTPUT** parameter and value to specify the data set name.
- You can select the diagnostic data to collect at a detailed level by using the **KFJ\_PDCOL\_COLLECT\_data** collection flags. By collecting only the types of data that you need, you can reduce both the time and storage used by the **PDCOLLECT** action job. For more information, see [“PDCOLLECT collection flags” on page 369](#).
- The **PDCOLLECT** action creates a configuration data set named `kfj_pdcoll_hlq.PDCLEF` that contains the diagnostic data collection settings. Within this data set is member \$USER, which you can use to customize and save your collection settings. For more information, see [“PDCLDEF\(\\$USER\)” on page 370](#).

**Note:** The **PDCOLLECT** action also creates members **DEFAULTS** and **KCIVARS**. These members are for internal use by the utility and for reference only. Do not update these members.

- You can fetch several SDSF DA snapshots for specified started tasks. The default is 10 samples every 10 seconds, and you can customize these settings using parameters **KFJ\_PDCOL\_DA\_SAMPLES** and **KFJ\_PDCOL\_DA\_INTERVAL**.
- When specifying how to store the collected diagnostic data, you can configure your job to produce output in one (or more, if needed) of the following formats:

#### **TERSE**

You can store the collected diagnostic data in a terse (.TRS) file by setting parameter **KFJ\_PDCOLLECT\_COMPATIBILITY** to Y. With this option, the **PDCOLLECT** action uses the IEBCOPY UNLOAD function to package the diagnostic data.

The file `kfj_pdcoll_hlq.PDCOLPDS.TRS` is generated.

**Note:** The TERSE format option is not available in environments where alternate utilities replace IEBCOPY. If IEBCOPY is not available, set parameter **KFJ\_PDCOLLECT\_COMPATIBILITY** to N.

## PAX

You can store the collected diagnostic data in a PAX (.pax) file on a z/OS® UNIX® System Services file system by setting parameter **KFJ\_PDCOLLECT\_PAX** to Y and specifying the path in parameter **KFJ\_PDCOLLECT\_PAX\_DIR**.

The file `kcipdcol.pax` is generated.

**Note:** When producing output in the PAX (.pax) file format, the **PDCOLLECT** action writes the Tivoli Enterprise Monitoring Server started task QA1 files (if collected) to the z/OS® UNIX® file system in hexadecimal print format. Additionally, the hex print data is converted to ASCII format and placed in the `/converted` subdirectory.

## ADRSSU

You can store the collected diagnostic data in a z/OS DFSMSdss dump data set by setting parameter **KFJ\_PDCOLLECT\_ADRSSU** to Y. This option requires the use of the KCIALPHA program. KCIALPHA is an APF-authorized version of KCIOMEGA.

The file `kfj_pdcoll_hlq.ADR.ARCHIVE` is generated.

**Note:** With this option, the **PDCOLLECT** action uses the z/OS DFSMSdss **DUMP** command. You might need authority to run **ADRSSU**, which is the program that is invoked when using DFSMSdss.

- If you need to redirect your results to a different high-level qualifier, specify the **KFJ\_PDCOL\_HLQ** parameter in the `KCIVARS DD` statement.

The **PDCOLLECT** action writes status messages for the job to the `KCIPRINT SYSOUT` data set.

To collect diagnostic information using the **PDCOLLECT** action, use the following procedure.

## Procedure

1. Modify the KFJMAINT sample job in TKANSAM (see example below) to use the **PDCOLLECT** action.
2. (Optional) Specify the **RTE\_NAME** and **RTE\_PLIB\_HILEV** parameters that point to the RTEDEF data set.
3. Specify information about your OMEGAMON address space logs, as follows:
  - If the OMEGAMON address space logs are in the SDSF output queue, specify the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameters.  
To collect data for a single job, specify the job name and job ID in parameters **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID**, respectively.  
To specify multiple started task logs, specify parameter **KFJ\_PDCOL\_JOB\_FILTER** set to Y, and define the job filters by using the asterisk (\*) and percent sign (%) as wildcard characters in the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameter values.
  - If your OMEGAMON address space logs have been copied to a sequential data set, specify the **KFJ\_PDCOL\_JOB\_OUTPUT** parameter, and specify the data set name.
4. (Optional) To override the default values of any of the diagnostic data collection settings (such as, collection flags, output package format, or SDSF DA settings), specify each override parameter and value in the `KCIVARS DD` statement. For more information about the available collection settings, see [“PDCOLLECT collection flags” on page 369](#) and [“PDCLDEF\(\\$USER\)” on page 370](#).
5. Specify the high-level qualifier for the **PDCOLLECT** action data sets in parameter **KFJ\_PDCOL\_HLQ**.
6. Submit the updated JCL.

## Result

The archive of collected diagnostic data is generated. You can FTP the output data set to IBM Software Support.

## Example

The following example collects diagnostic data for the OMEGAMON started task OMEGDS that has the job ID S654321. This job uses the default collection settings that are defined in the PDCLDEF (\$USER) member with the exception of the override setting to omit collection of network information. Because the runtime environment information is provided, the **PDCOLLECT** action can collect all available information.

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJMAINT)
//KCIIVARS DD *

ACTION                                PDCOLLECT

RTE_NAME                              RTEZOS1
RTE_PLIB_HILEV                        TSOUID.MONSUITE

KFJ_PDCOL_JOB_NAME                    OMEGDS
KFJ_PDCOL_JOB_ID                      S654321

KFJ_PDCOL_COLLECT_NETSTAT             N
```

## PDCOLLECT collection flags

When using the **PDCOLLECT** action to gather diagnostic data, you can choose what content to collect at a detailed level.

**Note:** The content in this topic is relevant only for environments with [PTF UJ98129 for APAR OA68463 \(3Q25\)](#) applied. If you do not have this maintenance applied, see [“Using PDCOLLECT \(without OA68463\)” on page 371](#).

The collection flags are defined by parameters with the naming pattern **KFJ\_PDCOL\_COLLECT\_\***. Each of these parameters accepts Y and N as values.

The following table lists the collection flags that are available and describes the content that each setting collects.

Parameter	Description
KFJ_PDCOL_COLLECT_STC	Collects the started task log
KFJ_PDCOL_COLLECT_NETSTAT	Collects network information using the <b>netstat</b> utility
KFJ_PDCOL_COLLECT_DASTATS	Collects SDSF Display Active Users (DA) statistics
KFJ_PDCOL_COLLECT_RK	Collects libraries RKANSAMU, RKANPARU, RKANCMDU, RKANDATV, RKCPDEFW, RKD2PAR, RKD2SAM
KFJ_PDCOL_COLLECT_TRG	Collects libraries <i>x</i> KANCMD, <i>x</i> KANSAM, <i>x</i> KANPAR, where <i>x</i> is T or R (shared or full RTE)
KFJ_PDCOL_COLLECT_LISTCAT	Collects <b>LISTCAT</b> command output, which lists all the data sets under the runtime environment qualifiers
KFJ_PDCOL_COLLECT_RTEDEF	Collects the runtime environment definition (RTEDEF) library
KFJ_PDCOL_COLLECT_EMBEDS	Collects the EMBEDS data set
KFJ_PDCOL_COLLECT_USERJCL	Collects the data set specified in the GBL_USER_JCL parameter
KFJ_PDCOL_COLLECT_WCONFIG	Collects the WCONFIG data set
KFJ_PDCOL_COLLECT_SNMP	Collects member RKANSAMU (KN3SNMP) or the data set specified in parameter KN3_SNMP_CONFIG_FILE

Parameter	Description
KFJ_PDCOL_COLLECT_STDENV	Collects the data sets mapped to the SDTENV DD statement
KFJ_PDCOL_COLLECT_SDADIR	Collects various information about the self-describing agent (SDA) directory, permission bits, contents, spawn_cmd . sh contents
KFJ_PDCOL_COLLECT_QA1	Collects QA1 files from the Tivoli Enterprise Monitoring Server started task  <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><b>Note:</b> When producing output in the PAX (. pax) file format, the <b>PDCOLLECT</b> action writes the QA1 files to the z/OS® UNIX® System Services file system in hexadecimal print format. Additionally, the hex print data is converted to ASCII format and placed in the /converted subdirectory.</p> </div>
KFJ_PDCOL_COLLECT_OPSLOG	Collects data sets mapped to the RKMSLG DD statement
KFJ_PDCOL_COLLECT_MANIFEST	Collects component level information

## Example

The following example show the collection flags with default settings:

```
* Data collection flags
KFJ_PDCOL_COLLECT_STC      Y
KFJ_PDCOL_COLLECT_NETSTAT Y
KFJ_PDCOL_COLLECT_DASTATS Y
KFJ_PDCOL_COLLECT_RK      Y
KFJ_PDCOL_COLLECT_TRG     Y
KFJ_PDCOL_COLLECT_LISTCAT Y
KFJ_PDCOL_COLLECT_RTEDEF  Y
KFJ_PDCOL_COLLECT_EMBEDS  Y
KFJ_PDCOL_COLLECT_USERJCL Y
KFJ_PDCOL_COLLECT_WCONFIG Y
KFJ_PDCOL_COLLECT_SNMP    Y
KFJ_PDCOL_COLLECT_STDENV  Y
KFJ_PDCOL_COLLECT_SDADIR  Y
KFJ_PDCOL_COLLECT_QA1     Y
KFJ_PDCOL_COLLECT_OPSLOG  N
KFJ_PDCOL_COLLECT_MANIFEST Y
```

## PDCLDEF(\$USER)

You can customize and save your diagnostic data collection settings for use with the **PDCOLLECT** action.

**Note:** The content in this topic is relevant only for environments with PTF UJ98129 for APAR OA68463 (3Q25) applied. If you do not have this maintenance applied, see [“Using PDCOLLECT \(without OA68463\)” on page 371](#).

The **PDCOLLECT** action creates a configuration data set named *kfj\_pdcoll\_hlq*.PDCLDEF that contains diagnostic data collection settings.

Within this data set is member \$USER, which you can use to customize and save your settings.

The first time you run the **PDCOLLECT** action, Configuration Manager creates the data set named *kfj\_pdcoll\_hlq*.PDCLDEF, including member \$USER.

Initially, the \$USER member contains the **PDCOLLECT** action parameters set to program defaults. If you have customized any of the same parameters in the KCIVARS DD statement in your JCL the first time you run the **PDCOLLECT** action, these settings override the default values and are stored in the \$USER member.

After the \$USER member has been created and populated during the first run of the utility, the **PDCOLLECT** action no longer updates the \$USER member. To modify the settings in the \$USER member, you must edit the member directly.

Parameters specified in the KCIVARS DD statement in the JCL override the settings in member \$USER. Any settings that are in the \$USER member do not need to be specified in the KCIVARS DD statement.

## Example

The following example shows the KCIPDCOL.PDCLDEF(\$USER) member with default settings:

```
***** Top of Data *****
* Data collection flags

KFJ_PDCOL_COLLECT_STC      Y
KFJ_PDCOL_COLLECT_NETSTAT Y
KFJ_PDCOL_COLLECT_DASTATS Y
KFJ_PDCOL_COLLECT_RK      Y
KFJ_PDCOL_COLLECT_TRG     Y
KFJ_PDCOL_COLLECT_LISTCAT Y
KFJ_PDCOL_COLLECT_RTEDEF  Y
KFJ_PDCOL_COLLECT_EMBEDS  Y
KFJ_PDCOL_COLLECT_USERJCL Y
KFJ_PDCOL_COLLECT_WCONFIG Y
KFJ_PDCOL_COLLECT_SNMP    Y
KFJ_PDCOL_COLLECT_STDENV  Y
KFJ_PDCOL_COLLECT_SDADIR  Y
KFJ_PDCOL_COLLECT_QA1     Y
KFJ_PDCOL_COLLECT_OPSLOG  N
KFJ_PDCOL_COLLECT_MANIFEST Y

KFJ_PDCOLLECT_ADRDSSU     N
KFJ_PDCOLLECT_PAX        N
KFJ_PDCOLLECT_COMPATIBILITY Y

KFJ_PDCOLLECT_PAX_DIR    $HOME

KFJ_PDCOL_DA_SAMPLES     10
KFJ_PDCOL_DA_INTERVAL    10

***** Bottom of Data *****
```

**Note:** The following parameters can only be specified in the KCIVARS DD and are not supported in the \$USER member:

- RTE\_PLIB\_HILEV
- RTE\_NAME
- KFJ\_PDCOL\_HLQ
- KFJ\_PDCOL\_JOB\_\*
- KFJ\_PDCOL\_ADR\_ARCHIVE<sup>1</sup>
- KFJ\_PDCOL\_RESTORE\_HLQ<sup>1</sup>
- KFJ\_PDCOLLECT\_RESTORE<sup>1</sup>

<sup>1</sup>These parameters are for use by IBM Software Support only.

## Using PDCOLLECT (without OA68463)

Use the Problem Determination Data Collection (PDCOLLECT) action to collect diagnostic information. This topic explains how to perform this task using Configuration Manager without APAR OA68463 applied.

## Before you begin

**Note:** The content in this topic is relevant only for environments without [PTF UJ98129](#) for APAR [OA68463 \(3Q25\)](#) applied. If you have this maintenance applied, see [“Using PDCOLLECT \(with OA68463\)”](#) on page 366.

To use the PDCOLLECT utility, you must install SDSF and be licensed to use it. If you do not have SDSF, you can copy the complete address space logs, including the JES output, RKLVLG, RKPLOG, RKPLOG, RKPLOG, SYSPRINT, and so on, into a data set. The DCB information for the output data set can be:

Organization: PS  
Record format: VB  
Record length: 240  
Block size: 27998

## About this task

The Configuration Manager PDCOLLECT utility action collects data that includes the following:

- System configuration
- Network information
- Self-describing agent (SDA) information
- Configuration Manager-related information (RTEDEF and EMBEDS data sets)
- Run Time Environment (RTE) data sets
- Output from the specified job

**Note:** This feature is available with APAR OA62230 (PTF UJ06864).

## Procedure

1. Locate the sample JCL job in the SMP/E target library *thilev*.TKANSAM(KFJMAINT).
2. Specify the following parameters in the KCIVARS DD statement:
  - a. Use **ACTION PDCOLLECT**.
  - b. Specify the **RTE\_PLIB\_HILEV** and **RTE\_NAME** parameters that will point to the required RTEDEF data set.
  - c. If the OMEGAMON address space logs are in the SDSF output queue, specify the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameters.
  - d. If your OMEGAMON address space logs were copied to a sequential data set, replace the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameters with the **KFJ\_PDCOL\_JOB\_OUTPUT** parameter, and specify the data set name.
3. Submit the updated JCL.

## Result

The file &SYSUID.KCIPDCOL.PDCOLPDS.TRS is generated. You can FTP the output data set to the IBM Support Center.

If you have to redirect your results to a different high-level qualifier, specify the **KFJ\_PDCOL\_HLQ** parameter in KCIVARS DD statement.

## Example

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=<lpar>
//S1 EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=<tlib_hlq>.TKANMOD
//KCIFFLOW DD DISP=SHR,DSN=<tlib_hlq>.TKANCUS(KFJMAINT)
//KCIVARS DD *
ACTION                PDCOLLECT
RTE_NAME              RTEZOS1
RTE_PLIB_HILEV       TSUID.MONSUITE

* For PDCOLLECT: following parameters are required

KFJ_PDCOL_JOB_NAME    OMEGDS
KFJ_PDCOL_JOB_ID      S654321
```

# Messages

Use the information in these messages to help you diagnose and solve problems running Monitoring Configuration Manager jobs.

## Message format

Monitoring Configuration Manager message identifiers have the following format:

`KF $\alpha$ nnnnns`

where:

### **KF $\alpha$**

Origin of the message:

#### **KFJ**

A Monitoring Configuration Manager workflow.

#### **KFU**

The underlying KCIOMEGA program or its APF-authorized version, KCIALPHA. KCIOMEGA is the job template engine that runs Monitoring Configuration Manager workflows.

### **nnnnn**

5-digit message identification number.

### **s**

Severity of the message:

#### **I**

Informational.

#### **W**

Warning to alert you to a possible error condition.

#### **E**

Error. Workflow processing typically stops.

The documentation for each message includes the following information:

### **Explanation**

Describes what the message text means, why the message occurred, and what its variables represent.

### **System action**

Describes what the system will do in response to the event that triggered this message.

### **User response**

Describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

## KFJ messages

Messages with the prefix KFJ are from Monitoring Configuration Manager workflows.

Many messages from Monitoring Configuration Manager workflows are self-explanatory and do not begin with an identifier. Only the messages that require further explanation have an identifier.

### **KFJ00001E: Kpp version *version* is not supported by this configuration tool**

#### **Explanation**

IBM Z® Monitoring Configuration Manager checks the installed versions of products to be configured in the runtime environment.

#### **System action**

No action is performed. The job ends.

### User response

In the JCL that runs Monitoring Configuration Manager, specify a KCIFLOW DD statement that refers to an installation containing product versions supported by Monitoring Configuration Manager.  
If you have only earlier product versions that are not supported by Monitoring Configuration Manager, then consider upgrading.

## **KFJ00002I: Kpp version *version* is not supported by this configuration tool**

### Explanation

IBM Z® Monitoring Configuration Manager checks the installed versions of products in an SMP/E installation target library. The Kpp product version cannot be configured using Monitoring Configuration Manager.

### System action

The system proceeds with job execution.

### User response

In the JCL that runs Monitoring Configuration Manager, specify a KCIFLOW DD statement that refers to an installation containing product versions supported by Monitoring Configuration Manager.

If you have only earlier product versions that are not supported by Monitoring Configuration Manager, then consider upgrading.

## **KFJ00003E: CONFIGURE\_ *agent* is set to Y but K\_pp\_ is not installed.**

### Explanation

The GENERATE action found the CONFIGURE\_ *agent* parameter set to "Y" in RTEDEF, but this version of the K\_pp agent is not installed.

### System action

The GENERATE action stops before generating runtime members.

### User response

In the JCL that runs Monitoring Configuration Manager, verify that the correct installation data set is specified. Set CONFIGURE\_ *agent* to "N" in RTEDEF.

## **KFJ00004E: CONFIGURE\_ *agent* is set to Y but K\_pp\_ installed version is unknown.**

### Explanation

The GENERATE action found the CONFIGURE\_ *agent* parameter set to "Y" in RTEDEF, but could not determine the K\_pp version of the agent.

### System action

The GENERATE action stops before generating runtime members.

### User response

In the JCL that runs Monitoring Configuration Manager, verify that the correct installation data set is specified. Set CONFIGURE\_ *agent* to "N" in RTEDEF.

## **KFJ00005E: RTE NAMES do not match.**

### Explanation

The MIGRATE action has not found the specified RTE in the source WCONFIG data set.

### System action

The MIGRATE action stops.

### User response

Verify that the RTE\_NAME and KFJ\_MIGRATE\_WCONFIG values are correct.

**KFJ00006E: *rte\_name* has not been found in *kfj\_migrate\_wconfig***

**Explanation**

The specified RTE member, *rte\_name*, has not been found in the migrate source WCONFIG data set listed in the message.

**System action**

The MIGRATE action stops.

**User response**

Verify that the RTE\_NAME and KFJ\_MIGRATE\_WCONFIG values are correct.

**KFJ00007E: RTEDEF dataset *rtedef* already exists.**

**Explanation**

Specified target RTEDEF data set, listed as *rtedef* in the message, already exists so it cannot be created again.

**System action**

The MIGRATE action stops.

**User response**

Use a different RTE\_PLIB\_HILEV or specify CONFIRM=Y in the job to overwrite the existing RTEDEF data set.

**KFJ00008W: Agent *Kpp* is not installed in the target SMP/E**

**Explanation**

The MIGRATE action has detected that the agent *Kpp* is set to CONFIGURE\_*agent\_Kpp*=Y in the source WCONFIG, but it is not installed in the target SMP/E environment.

**System action**

The MIGRATE action sets CONFIGURE\_*agent\_Kpp*=N and continues.

**User response**

Verify that the correct SMP/E environment has been set in the job running the MIGRATE action.

**KFJ00200E: Parameter required but not specified: *parameter***

**Explanation**

Before generating runtime members, the GENERATE action checks whether this required parameter has been specified.

**System action**

The GENERATE action stops before generating runtime members.

**User response**

Specify the required parameter in the appropriate RTEDEF member, and then resubmit the job.

**KFJ00201E: GBL\_USS\_TKANJAR\_PATH directory *path* does not exist**

**Explanation**

The GBL\_USS\_TKANJAR\_PATH parameter specifies the path of the target z/OS® UNIX® System Services directory that is defined in the SMP/E installation jobs by ddname TKANJAR. Before generating runtime members, the GENERATE action checks whether this directory exists.

**System action**

The GENERATE action stops before generating runtime members.

## User response

Specify the correct path in the appropriate [RTEDEF member](#), and then resubmit the job. If you do not know the path, contact the person who installed the products.

The default path for the TKANJAR ddname is /usr/lpp/kan/bin/IBM.

## KFJ00202E: RTE\_USS\_RTEDIR must not be a subdirectory of GBL\_USS\_TKANJAR\_PATH

### Explanation

The **RTE\_USS\_RTEDIR** and **GBL\_USS\_TKANJAR\_PATH** parameters each specify the path of a z/OS® UNIX® System Services directory. **GBL\_USS\_TKANJAR\_PATH** is an SMP/E target directory, or a copy. **RTE\_USS\_RTEDIR** specifies where to generate runtime members; some runtime environment started tasks also write to files under this directory.

**RTE\_USS\_RTEDIR** must not be a subdirectory of **GBL\_USS\_TKANJAR\_PATH** because SMP/E target directories and their descendants should be read-only for most users. However, some OMEGAMON® products write to files under the **RTE\_USS\_RTEDIR** directory.

Before generating runtime members, the **GENERATE** action checks whether **RTE\_USS\_RTEDIR** is a subdirectory of **GBL\_USS\_TKANJAR\_PATH**.

### System action

The **GENERATE** action stops before generating runtime members.

### User response

Change the value of **RTE\_USS\_RTEDIR**, and then resubmit the job.

## KFJ00203E: User requires write access to the zos\_unix\_path\_parameter directory path

### Explanation

The user who runs the job that performs the **GENERATE** action must be able to write to the z/OS® UNIX® System Services directory specified in the parameter, where *zos\_unix\_path\_parameter* is **RTE\_USS\_RTEDIR** or **TRG\_COPY\_TKANJAR\_PATH**, and *path* is the directory path.

The **RTE\_USS\_RTEDIR** parameter specifies the path of the z/OS® UNIX® directory where the **GENERATE** action writes runtime members.

The **TRG\_COPY\_TKANJAR\_PATH** parameter specifies the path of the z/OS® UNIX® directory where the **GENERATE** action with option **TRGCOPY** copies SMP/E installation files.

### System action

The **GENERATE** action stops before generating runtime members.

### User response

Follow your local site practices to grant the user write access to the directory.

For example, set the directory permissions to 775. The following z/OS® UNIX® shell command sequence (requires superuser for **chmod**) recursively sets the permissions of /var/rtehome and its descendants:

```
echo chmod -R 775 /var/rtehome | su
```

## KFJ00204E: An error occurred creating RTE\_USS\_RTEDIR directory path

### Explanation

The **RTE\_USS\_RTEDIR** parameter specifies the path of the z/OS® UNIX® System Services directory where the **GENERATE** action writes runtime members. If this directory does not exist, then the user who runs the job that performs the **GENERATE** action must be able to create this z/OS® UNIX® directory.

### System action

The **GENERATE** action stops before generating runtime members.

## User response

Follow your local site practices to grant the user write access to create the directory.

## KFJ00205E: [GBL\_USS\_TKANJAR\_PATH | KFJ\_LOCAL\_USS\_TKANJAR\_PATH] directory path is empty

### Explanation

The z/OS® UNIX® System Services directory specified in the **GBL\_USS\_TKANJAR\_PATH** or **KFJ\_LOCAL\_USS\_TKANJAR\_PATH** parameter must contain installation files.

### System action

The **GENERATE** action stops before generating runtime members.

### User response

Verify if the **GBL\_USS\_TKANJAR\_PATH** or **KFJ\_LOCAL\_USS\_TKANJAR\_PATH** parameter is specified correctly.

## KFJ00205W: The length of SYSNAME exceeds 4.

### Explanation

Before generating members in the RTEDEF library, the DISCOVERY, GENERATE, and MIGRATE actions verify if the SYSNAME parameter exceeds 4 characters in length.

### System action

The system action depends on whether KFJ\_SYSNAME is specified.

- If KFJ\_SYSNAME is not specified in the KCIVARS DD statement in the JCL, the system will use the SYSSMFID parameter instead of SYSNAME.
- If KFJ\_SYSNAME is specified and it does not exceed 4 characters in length, the system will use the KFJ\_SYSNAME value instead of SYSNAME.

### User response

If you want to change the SYSNAME system parameter, specify the KFJ\_SYSNAME parameter in the KCIVARS DD statement in the JCL **before** submitting DISCOVERY and GENERATE actions. See the example below.

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1 EXEC PGM=KCIALPHA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIVARS DD *
ACTION          DISCOVER
RTE_NAME        RTE1
RTE_PLIB_HILEV  TSOUID.MONSUITE
KFJ_SYSNAME     MVS1
/*
```

## KFJ00206E: RTE\_X\_SECURITY\_EXIT\_LIB data set name is not allocated

### Explanation

The data set specified in parameter **RTE\_X\_SECURITY\_EXIT\_LIB** is not allocated. Typically, this data set is allocated during the **CREATE** or **MIGRATE** action.

### System action

The **GENERATE** action stops before generating runtime members.

### User response

Verify that the **RTE\_X\_SECURITY\_EXIT\_LIB** parameter is correctly specified in the RTEDEF (*rte\_name*) member. Ensure that the **RTE\_X\_SECURITY\_EXIT\_LIB** data set is allocated and contains the required security exits.

## **KFJ00207E: Full discovery not attempted - APF authorization required**

### **Explanation**

The KCIALPHA load library has been used for the DISCOVER action, but it is not APF authorized.

### **System action**

KCIALPHA performed a partial discovery.

### **User response**

Partial discovery was still performed and relevant members might have been created in RTEDEF. These members will not be overwritten by a full discovery process. If full discovery is required, APF authorize the KCIALPHA load library and rerun the job.

## **KFJ00208E: User requires read access to the *name* directory**

### **Explanation**

The user who runs the job that performs the **PACKAGE** action must be able to read this z/OS® UNIX® System Services directory.

### **System action**

The **PACKAGE** action stops before generating DUMP data sets.

### **User response**

Follow your local site practices to grant the user READ access to the directory. WRITE access is also recommended as it will be used during the GENERATE action too.

## **KFJ00209E: Directory does not exist: *name***

### **Explanation**

z/OS® UNIX® System Services directory does not exist. Specified directory should be created during GENERATE action.

### **System action**

The **PACKAGE** action stops before generating DUMP data sets.

### **User response**

Review GENERATE JCL Job output log for any z/OS® UNIX® errors.

## **KFJ00210E: Unable to create PAX archive *name***

### **Explanation**

Unexpected error while trying to create PAX archive on configuration system.

### **System action**

The **PACKAGE** action stops before generating DUMP data sets.

### **User response**

Verify job output for more details. Consider multiple issues: permissions, space shortage.

## **KFJ00211I: Configuration Manager is allocating data sets using local settings for high-level qualifiers and z/OS UNIX System Services paths**

### **Explanation**

During runtime environment generation, the KFJ\_LOCAL\_\* local parameters will be used to allocate runtime environment data sets instead of RTE\_\* or GBL\_\* parameters.

### System action

The **GENERATE** action performs runtime environment generation using local parameters.

### User response

Review the mapping table and make sure that all of the KFJ\_LOCAL\_\* parameters are specified correctly.

## KFJ00212E: No DUMP data sets found to deploy

### Explanation

The **DEPLOY** action did not find any DUMP data sets to restore.

### System action

The **DEPLOY** action stops with a return code of 8.

### User response

Check that expected DUMP data sets are available on the system. Verify KFJ\_PACK\_\* parameters, if they are used.

## KFJ00213E: Customizing parameter *parameter\_name* is not supported by the GENERATE action when using option parameter KFJ\_LOCAL\_PLIB\_HILEV. Use the product provided default.

### Explanation

The **KFJ\_LOCAL\_PLIB\_HILEV** parameter was specified in the JCL (KCIVARS DD statement). The **GENERATE** action does not allow certain parameter customization for runtime environment generation for remote systems. In the following example, one of the parameters, **GBL\_USER\_JCL**, was found in the RTEDEF members, which caused the program to stop with a return code of 8:

```
KFU00002I INVOKE processing is about to commence; MEMBER=KFJOMEGA DDNAME=KCIFLOW
DSN=TEST1.SYSPLEX.SMPE.TKANCUS Maintenance level: OA61601
01. Using parameters in TEST1.CM.R683L.RTEDEF(PGVK)
02. Using parameters in TEST1.CM.R683L.RTEDEF(KDS$PARM)
03. Using parameters in TEST1.CM.R683L.RTEDEF(GBL$PARM)
04. Using parameters in TEST1.CM.R683L.RTEDEF(PCK$PARM)
KFJ00213E Customizing parameter GBL_USER_JCL is not supported by the GENERATE action when
using option parameter KFJ_LOCAL_PLIB_HILEV. Use the product provided default.
KFU00086E REXX routine has failed; EXEC=VALVARS RC=8

KFU00004I KCIOMEGA is ending; RC=8 SYSPLEX=RSPLX0K LPAR=1234 DATE=2021-08-25 08:23:21
Thursday
```

### System action

The **GENERATE** action stops with return code 8.

### User response

Review parameter *parameter\_name* to ensure that it is not used by the **GENERATE** action. To achieve this, you can comment out this parameter from the RTEDEF members and restart the **GENERATE** action.

If parameter *parameter\_name* is related to KD2 operational data set allocation, you can resolve this error by using parameter **KFJ\_LOCAL\_KD5\_RUN\_ALLOC** set to value **DEPLOY** or **NONE**.

## KFJ00214E: Unable to extract PAX archive

### Explanation

An unexpected error occurred while trying to extract the PAX archive on a remote (target) system.

### System action

The **DEPLOY** action stops with a return code of 8.

**User response**

Review the job output for more details. Consider multiple issues: permissions, space shortage, corrupted data set.

**KFJ00215W: RTE\_X\_HILEV\_SHARING not supported. Parameter ignored.****Explanation**

Monitoring Configuration Manager does not support the **RTE\_X\_HILEV\_SHARING** parameter. The parameter value does not migrate from the existing PARMGEN configuration to the Configuration Manager RTEDEF data set.

**System action**

The **RTE\_X\_HILEV\_SHARING** parameter value is ignored and not used. Processing continues.

**User response**

No action is required.

**KFJ00216E: OPTION *option* not supported****Explanation**

The **OPTION** parameter value specified in KCIVARS is not supported.

**System action**

The action stops with a return code of 8.

**User response**

Review the **OPTION** parameter value specified. Make sure that the option value is spelled correctly and that is available for the specific action.

**KFJ00217E: OPTION *option\_1* not compatible with option *option\_2*****Explanation**

Certain options are not compatible due to conflicting outcomes.

**System action**

The action stops with a return code of 8.

**User response**

Remove one or more of the conflicting options and rerun the job.

**KFJ00218E: \*\$PARM and/or \*\$GLOB members already exist****Explanation**

The **MIGRATE** action checked the existing *rte\_plib\_hilev*. RTEDEF and found sysplex level members in the library.

**System action**

The **MIGRATE** action stops with a return code of 8.

**User response**

Delete or rename the members listed in KCIPRINT and rerun the **MIGRATE** action.

### **KFJ00219E: \*\$lpar members already exist**

#### **Explanation**

The **MIGRATE** action checked the existing *rte\_plib\_hilev*.RTEDEF and found LPAR-specific members in the library.

#### **System action**

The **MIGRATE** action stops with a return code of 8.

#### **User response**

Delete or rename the members listed in KCIPRINT and rerun the **MIGRATE** action.

### **KFJ00220E: RTE\_NAME member already exists**

#### **Explanation**

The **MIGRATE** action checked the existing *rte\_plib\_hilev*.RTEDEF and found the RTE\_NAME member in the library.

#### **System action**

The **MIGRATE** action stops with a return code of 8.

#### **User response**

Delete or rename the RTE\_NAME member listed and rerun the **MIGRATE** action.

### **KFJ00221I: DEBUG does not impact the deletion of DDs in JES3**

#### **Explanation**

JES3 does not support the deletion of DD outputs from the spool, so the function of **OPTION DEBUG** will not have impact on this function.

#### **System action**

No impact. Processing continues.

#### **User response**

No action is required.

### **KFJ00222I: Package *data\_set\_name* not found**

#### **Explanation**

The **DEPLOY** action expects certain data sets to be available during the restore process. The availability of the data sets depends on the results of the **PACKAGE** action.

#### **System action**

No impact. Processing continues.

#### **User response**

Review the results from the **PACKAGE** action. Ensure that all data sets created by the **PACKAGE** action are processed during the **DEPLOY** action.

### **KFJ00223I: Global RTE PDS V1 setting is ON | OFF**

#### **Explanation**

This message denotes the global persistent data store version 1 status for the runtime environment. This status is the final status that is set by the configuration process and is also written to the KPQHINIT member in RKANPARU. This status applies to all agents and does not reflect the initial status of, for example,

**RTE\_PDS2\_ACTIVATION**, or individual **Kpp\_PDS2\_ACTIVATION** flags. This value is derived from the combined parameter flags that are used in the runtime environment.

This message is always followed by message [KFJ00224I](#). If PDS V1 is ON, details about why PDS V1 is ON appear after message KFJ00224I. This information includes a list of agents for which PDS V2 is not activated and also indicates if PDS V2 is not activated due to an unsupported agent version. For more information about supported product versions, see [PDS V2 support](#).

For more information, see [How to: Activate PDS V2](#).

#### **System action**

No impact. Processing continues.

#### **User response**

No action is required.

### **KFJ00224I: Global RTE PDS V2 setting is ON | OFF**

#### **Explanation**

This message denotes the global persistent data store version 2 status for the runtime environment. This status is the final status that is set by the configuration process, which is also written to the KPQHINIT member in RKANPARU. This status applies to all agents and does not reflect the initial status of, for example, **RTE\_PDS2\_ACTIVATION**, or individual **Kpp\_PDS2\_ACTIVATION** flags. This value is derived from the combined parameter flags that are used in the runtime environment.

For more information, see [How to: Activate PDS V2](#).

#### **System action**

No impact. Processing continues.

#### **User response**

No action is required.

### **KFJ00225E: EMBEDS data set invalid or not allocated - *rte\_x\_override\_embeds\_lib***

#### **Explanation**

If parameter **RTE\_X\_OVERRIDE\_EMBEDS\_LIB** is found in the RTE\_NAME member of RTEDEF, it must be set to a valid value that corresponds to an existing embeds library. If the parameter value is empty or mistyped, this error is issued. The message provides the specified parameter value in *rte\_x\_override\_embeds\_lib*; an empty string indicates that the parameter value was empty.

#### **System action**

Processing stops.

#### **User response**

Either correct the value specified in parameter **RTE\_X\_OVERRIDE\_EMBEDS\_LIB**, or, if no embed overrides are required, remove the parameter from the RTE\_NAME member.

### **KFJ00226W: Non-secure TEMS communication protocol is used**

#### **Explanation**

Runtime environment parameter **RTE\_TEMS\_TRANSPORT\_MODE** is set to HTTP. The runtime environment is using the non-secure HTTP communication protocol for all agents.

#### **System action**

Processing continues.

#### **User response**

Consider changing the communication protocol to HTTPS. For more information, see [Update runtime environment to use HTTPS](#).

## KFJ00227E: *hilev\_parameter* parameter value must match a data set name used in JCL KCIFLOW DD statement

### Explanation

The high-level qualifier value for the SMP/E target libraries that was specified in parameter *hilev\_parameter* was not found in the KCIFLOW DD statement in the JCL, where *hilev\_parameter* is **GBL\_TARGET\_HILEV** or **KFJ\_LOCAL\_TARGET\_HILEV**. The KCIFLOW DD statement and the RTEDEF members must point to the same SMP/E target libraries.

For the **GBL\_TARGET\_HILEV** parameter, the parameter and value are specified in the GBL\$PARM or GBL\$lpar member.

For the **KFJ\_LOCAL\_TARGET\_HILEV** parameter, the parameter and value are specified in the PCK\$PARM or PCK\$lpar member.

For example, in the GBL\$PARM or GBL\$lpar member, the high-level qualifier for the SMP/E target libraries is defined as follows:

```
GBL_TARGET_HILEV      "MONSUITE"
```

In the JCL, this same high-level qualifier value must be specified in the KCIFLOW DD statement, as shown:

```
//UID#ZMCM JOB ,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
/*JOBPARM SYSAFF=ZOS1
//S1      EXEC PGM=KCIOMEGA,REGION=0M,DYNAMNBR=256
//STEPLIB DD DISP=SHR,DSN=MONSUITE.TKANMOD
//KCIFLOW DD DISP=SHR,DSN=MONSUITE.TKANCUS(KFJOMEGA)
//KCIIVARS DD *
ACTION    GENERATE
RTE_NAME  RTE1
RTE_PLIB_HILEV TSOUID.MONSUITE
```

### System action

Processing stops.

### User response

Ensure that the KCIFLOW DD statement in the JCL points to the same SMP/E target libraries that are used inside the RTEDEF members.

- For a standard **GENERATE** action, verify the **GBL\_TARGET\_HILEV** parameter value.
- If **KFJ\_LOCAL\_PLIB\_HILEV** is specified in the KCIIVARS DD statement, verify the **KFJ\_LOCAL\_TARGET\_HILEV** parameter value.

## KFJ00228W: RTE\_SHARE xxx not supported. RTE\_SHARE changed to SMP.

### Explanation

Configuration Manager supports RTE\_TYPE FULL, or RTE\_TYPE SHARING with RTE\_SHARE SMP. However, the **MIGRATE** action has detected that the PARMGEN WCONFIG configuration uses an RTE\_SHARE value that is not equal to SMP. If RTE\_TYPE is set to SHARING, and RTE\_SHARE is not equal to SMP, you will receive this warning message.

### System action

RTE\_SHARE is reset to the default value, which is SMP.

### User response

None. If you were using a base library with PARMGEN, you might consider using the Configuration Manager target copy feature, which allows you to create and use a copy of your SMP/E target libraries. For more information, see [“Using SMP/E target library copies” on page 352](#).

## **KFJ00229E: Failed to copy files from *source\_path* to TRG\_COPY\_TKANJAR\_PATH directory *target\_path***

### **Explanation**

The **GENERATE** action failed to copy files from the directory specified in parameter **GBL\_USS\_TKANJAR\_PATH** to the directory specified in **TRG\_COPY\_TKANJAR\_PATH**.

### **System action**

The **GENERATE** action stops before copying installation files.

### **User response**

Ensure that the directory specified in parameter **GBL\_USS\_TKANJAR\_PATH** contains all the required files. Ensure that the directory specified in parameter **TRG\_COPY\_TKANJAR\_PATH** exists and the user who runs the job that performs the **GENERATE** action has the required permissions to create new files.

## **KFJ00230I: Checkpoint created**

### **Explanation**

The checkpoint for the impacted runtime environment has been created in the WKANPARU library. It indicates that the **GENERATE** action with **OPTION PREPARE** has completed successfully.

### **System action**

Processing continues.

### **User response**

Review the generated artifacts. For more information, see [GENERATE action with OPTION PREPARE](#).

## **KFJ00231I: Checkpoint detected**

### **Explanation**

The **GENERATE** action detected a checkpoint, which was created by a previous run of the **GENERATE** action with **OPTION PREPARE**.

**Note:** The **GENERATE** action does not attempt to detect a checkpoint if any of the following options are used: **USS**, **SECEXITS**, **RELINK**, **QUICKLOAD**.

### **System action**

The **GENERATE** action processes the remaining workflow stages, bypassing the stages performed by the **PREPARE** option.

### **User response**

Review the KCIPARSE DD statement output for more details.

## **KFJ00232I: Checkpoint deleted**

### **Explanation**

The **GENERATE** action detected a checkpoint. At the end of processing, the **GENERATE** action attempts to delete the checkpoint from the WKANPARU data set. This message indicates that the checkpoint was deleted successfully.

### **System action**

Processing continues.

### **User response**

No action is required.

## **KFJ00233E: Prepared RTE and SMP/E maintenance levels do not match**

### **Explanation**

The SMP/E maintenance level does not match the maintenance level in the checkpoint that was created by the **GENERATE** action with **OPTION PREPARE**. This happens when additional PTFs are applied to your SMP/E libraries prior to completing the full maintenance cycle for the impacted runtime environment.

### **System action**

Processing stops.

### **User response**

The checkpoint must be refreshed for the impacted runtime environment. With the additional maintenance applied to the SMP/E libraries, use the **GENERATE** action with **OPTION PREPARE** to regenerate the runtime environment work libraries and checkpoint.

## **KFJ00234W: Unable to delete checkpoint**

### **Explanation**

The **GENERATE** action detected a checkpoint. At the end of processing, the **GENERATE** action attempts to delete the checkpoint from the WKANPARU data set. This message indicates that the **GENERATE** action was unable to delete the checkpoint.

### **System action**

Processing continues.

### **User response**

Make sure the checkpoint member \$PREPARE in the WKANPARU data set is not locked by another process. If needed, remove the \$PREPARE member manually.

## **KFJ00235I: Alias KFJ\_X\_ALIAS\_DSN resolved to KFJ\_X\_ALIAS\_DSN\_RESOLVED**

### **Explanation**

If an alias is used for SMP/E target data sets, Configuration Manager must resolve the alias before checking if the KCIFLOW DD statement and the RTEDEF members point to the same SMP/E target libraries. See the related error message [KFJ00227E](#).

### **System action**

Processing continues.

### **User response**

No action is required.

## **KFJ00236W: Netstat command failed**

### **Explanation**

During the **PDCOLLECT** action, a network diagnostics step running a **netstat** utility failed.

### **System action**

Processing continues.

### **User response**

If you want to retry network statistics collection, review the error message printed in the NETSTAT member in the PDCOLLECT archive. Make sure you have the appropriate authorizations to run the network statistics collection. After the problem is resolved, you can rerun the **PDCOLLECT** utility action.

## **KFJ00237E: RTEDEF data set %KFJ\_I\_PLIB\_HILEV%.RTEDEF does not exist**

### **Explanation**

The Configuration Manager action that issued this message requires the use of a defined runtime environment definition (RTEDEF) library, but the library does not exist.

The **GENERATE**, **DELETE**, and **PACKAGE** actions require the use of the RTEDEF library, but these actions do not create the library. Only the **MIGRATE**, **CREATE**, **DEPLOY**, and **DISCOVER** actions create the RTEDEF library.

### **System action**

Processing stops.

### **User response**

In the KCIVARS input data set, review the specified value for parameter **RTE\_PLIB\_HILEV**, which must point to an existing RTEDEF library.

## **KFJ00240I: RTE\_PLIB\_HILEV parameter is not defined in KCIVARS**

### **Explanation**

Parameter **RTE\_PLIB\_HILEV** was not defined in the KCIVARS DD for the **PDCOLLECT** action. Some collection flags that normally require runtime environment information are disabled. To collect additional information, you must specify values for both the **RTE\_PLIB\_HILEV** and **RTE\_NAME** parameters.

### **System action**

Processing continues.

### **User response**

To collect more information about your environment, specify the value of parameter **RTE\_PLIB\_HILEV** for the next run.

## **KFJ00241I: RTE\_NAME parameter is not defined in KCIVARS**

### **Explanation**

Parameter **RTE\_NAME** was not defined in the KCIVARS DD statement for the **PDCOLLECT** action. Some collection flags that normally require runtime environment information are disabled. To collect additional information, you must specify values for both the **RTE\_PLIB\_HILEV** and **RTE\_NAME** parameters.

### **System action**

Processing continues.

### **User response**

To collect more information about your environment, specify the value of parameter **RTE\_NAME** for the next run.

## **KFJ00242E: You must use PGM=KCIALPHA to create an ADRDSSU archive**

### **Explanation**

To be able to run the **ADRDSSU** program, you must use the APF-authorized program **KCIALPHA**.

### **System action**

Processing stops.

### **User response**

Specify **PGM=KCIALPHA** in the JCL and rerun the **PDCOLLECT** action.

## KFJ00243E: Use PGM=KCIOMEGA to run PDCollect

### Explanation

If you archive the collected diagnostic data only to a TERSE (.TRS) or PAX (.pax) file, then you must run the **PDCOLLECT** action with the KCIOMEGA program.

### System action

Processing stops.

### User response

Specify PGM=KCIOMEGA in the JCL and rerun the **PDCOLLECT** action.

## KFJ00244E: KFJ\_PDCOL\_JOB\_NAME or KFJ\_PDCOL\_JOB\_OUTPUT must be specified

### Explanation

The **PDCOLLECT** action must be given a reference to a running OMEGAMON started task, either by specifying a job name or a data set that contains the job output.

### System action

Processing stops.

### User response

Specify either the **KFJ\_PDCOL\_JOB\_NAME** or the **KFJ\_PDCOL\_JOB\_OUTPUT** parameter.

**Note:** Using the **KFJ\_PDCOL\_JOB\_NAME** parameter also requires parameter **KFJ\_PDCOL\_JOB\_ID** to be specified if **KFJ\_PDCOL\_JOB\_FILTER** "Y" is not specified.

## KFJ00245E: *data\_set\_name* data set not found

### Explanation

A data set that is essential for the **PDCOLLECT** action was not found.

### System action

Processing stops.

### User response

Check why the data set *data\_set\_name* does not exist.

## KFJ00246E: KFJ\_PDCOL\_JOB\_ID must be specified

### Explanation

If the **PDCOLLECT** action runs without the enabled job filter option, then parameter **KFJ\_PDCOL\_JOB\_ID** is required.

### System action

Processing stops.

### User response

Specify parameter **KFJ\_PDCOL\_JOB\_ID** set to the job ID of the started task name specified in parameter **KFJ\_PDCOL\_JOB\_NAME**.

## **KFJ00247I: Job output data set *kfj\_pdcoll\_job\_output* will not be used**

### **Explanation**

For the log analysis, the **PDCOLLECT** action can use either a running started task in SDSF or the job output. If both are specified, then the job output is ignored.

### **System action**

Processing continues.

### **User response**

If you have SDSF and use the combination of job ID and job name to identify the started task, you can remove parameter **KFJ\_PDCOL\_JOB\_OUTPUT** from the parameter list in the **KCIVARS DD** statement.

## **KFJ00248W: No RTE definition given. Some collection flags will be forced off.**

### **Explanation**

Some collection items require the runtime environment definition to be specified in the **KCIVARS DD** statement. If the runtime environment definition is not provided using parameters **RTE\_PLIB\_HILEV** and **RTE\_NAME**, then Configuration Manager automatically disables the flags for the items that cannot be collected.

### **System action**

Processing continues.

### **User response**

No action is required; however, if you want to collect the diagnostic data that was not collected, specify the runtime environment information in parameters **RTE\_PLIB\_HILEV** and **RTE\_NAME**.

## **KFJ00249I: Collection flags in effect: *collection\_flags\_list***

### **Explanation**

The **PDCOLLECT** action lists the items that can be collected in this run.

### **System action**

Processing continues.

### **User response**

No action is required.

## **KFJ00250E: No collection flags selected. PDCollect cannot proceed.**

### **Explanation**

The **PDCOLLECT** action did not find any item to collect.

### **System action**

Processing stops.

### **User response**

Check that at least one flag is set in the **PDCLDEF (\$USER)** definition file or if there are any messages in the **KCIPRINT SYSOUT** output indicating that selected flags have been forced to N.

## **KFJ00251W: No data to terse.**

### **Explanation**

When you use the **KFJ\_PDCOLLECT\_COMPATIBILITY** mode, the **PDCOLLECT** action passes a final data container to the **AMATERSE** program. If no data was collected, the **AMATERSE** program issues a non-zero return code that indicates that it had zero bytes to process.

This result usually means that either the job ID and job name combination was incorrect, not pointing to a valid OMEGAMON started task; or too few collection flags were selected, and no data was found to collect.

### System action

Processing stops.

### User response

Check that the **KFJ\_PDCOL\_JOB\_NAME** and **KFJ\_PDCOL\_JOB\_ID** parameter values point to a valid OMEGAMON started task and that the collection flags are set correctly.

## **KFJ00252I: *data\_set\_name* data set not found**

### Explanation

A data set that is not essential for the **PDCOLLECT** action was not found, but processing can continue.

### System action

Processing continues.

### User response

No action is required.

## **KFJ00253E: Undefined symbols detected in RTEDEF: *&symbol***

### Explanation

The validation process encountered symbol *&symbol*, which is not defined. The validation process checks the following locations for the symbol definition:

- System symbols defined in the PARMLIB library or member RTEDEF (SYS@*lpar*)
- User variables defined in members RTEDEF (VAR\$GLOB) or RTEDEF (VAR\$*lpar*)

### System action

The system action depends on the **RTE\_VALIDATION\_LEVEL** parameter setting, as follows:

- If parameter **RTE\_VALIDATION\_LEVEL** is set to W (Warning) or E (Error), the **GENERATE** action stops with a return code of 8.
- If parameter **RTE\_VALIDATION\_LEVEL** is set to I (Informational), processing continues, allowing you to use the undefined symbol in your parameter setting. This behavior is acceptable in the following scenarios:
  - You have an undefined symbol that becomes defined when the agent starts, as the symbol can be defined in the PARMLIB library and added dynamically.
  - Your runtime environment is being packaged for deployment to another system; during the **GENERATE** action, the validation process does not have access to the remote system symbols.

**Tip:** Optionally, you can discover the system symbols on the target system and send the results back the configuration system for validation.

### User response

Verify that the system symbol definition is correct.

**KFJ00254I: A collection configuration data set *kfj\_pdc0l\_hlq*.PDCLDEF has been created. You can edit the flags in the \$USER member to control what information is collected.**

**Explanation**

The **PDCOLLECT** action created data set PDCLDEF where you can customize your diagnostic data collection preferences. This data set persists after the **PDCOLLECT** action job completes and is used by subsequent **PDCOLLECT** action jobs.

**System action**

Processing continues.

**User response**

No action is required.

**KFJ00255I: Using collection flags from *kfj\_pdc0l\_hlq*.PDCLDEF**

**Explanation**

The **PDCOLLECT** action found that data set *kfj\_pdc0l\_hlq*.PDCLDEF exists and attempts to use preferences found in member \$USER as overrides.

**System action**

Processing continues.

**User response**

No action is required.

**KFJ00256E: Specified z/OS Unix PDCOLLECT directory cannot be empty**

**Explanation**

You cannot specify an empty value in parameter **KFJ\_PDCOLLECT\_PAX\_DIR** as it is used as the root to create directory *kcipdc0l/*.

**System action**

Processing stops.

**User response**

You must specify a non-empty value for the z/OS® UNIX® System Services directory parameter **KFJ\_PDCOLLECT\_PAX\_DIR** in the KCIVARS DD statement.

**KFJ00257I: When using a job filter, only STC logs and DA panel information can be collected.**

**Explanation**

When job filtering is enabled (parameter **KFJ\_PDCOL\_JOB\_FILTER** set to Y), the **PDCOLLECT** action can only fetch started task and SDSF DA panel information. All other flags are turned off.

**System action**

Processing continues.

**User response**

To collect more detailed information, you must specify the job name and job ID values for a specific started task.

**KFJ00258E: KFJ\_PDCOL\_JOB\_\* parameters do not support filters. Use KFJ\_PDCOL\_JOB\_FILTER 'Y' to enable filters.**

**Explanation**

By default, the parameters for the started task job name (**KFJ\_PDCOL\_JOB\_NAME**) and job ID (**KFJ\_PDCOL\_JOB\_ID**) do not support wildcard characters \* and %. To collect diagnostic data for more than one started task, you must enable job filtering. Only started task and SDSF Display Active Users (DA) data can be collected with a filter.

**System action**

Processing stops.

**User response**

Enable job filtering by specifying parameter **KFJ\_PDCOL\_JOB\_FILTER** set to Y, and rerun the **PDCOLLECT** action job.

**KFJ00259E: KFJ\_PDCOL\_RESTORE\_HLQ is required**

**Explanation**

For the **PDCOLLECT** action to extract the **ADRSSU** archive, a valid high-level qualifier must be specified, as the restore process must rename some collected data sets.

**System action**

Processing stops.

**User response**

Set parameter **KFJ\_PDCOL\_RESTORE\_HLQ** to a valid high-level qualifier value. For example, use your TSO user name or any other high-level qualifier to which you have **UPDATE** access.

**KFJ00260E: KFJ\_PDCOL\_RESTORE\_HLQ must be a single qualifier**

**Explanation**

A value consisting of multiple qualifiers is invalid. The **ADRSSU** program uses the specified value as the first qualifier for a rename option.

**System action**

Processing stops.

**User response**

Specify only one qualifier.

**KFJ00262I: PDCOLLECT ADRSSU archive restored from archive *kfj\_pdcoll\_adr\_archive* to HLQ *kfj\_pdcoll\_restore\_hlq***

**Explanation**

The **PDCOLLECT** action successfully restored the **ADRSSU** archive under the given high-level qualifier.

**System action**

Processing continues.

**User response**

No action is required.

**KFU messages**

Messages with the prefix **KFU** are from the **KCIOMEGA** program or its APF-authorized version, **KCIALPHA**.

KCIOMEGA is the underlying job template engine that runs Monitoring Configuration Manager.

**KFU00001I: KCIOMEGA is starting; SYSPLEX=*name* LPAR=*name* DATE=*date and time***

**Explanation**

The KCIOMEGA workflow utility is starting. The system, date and time are reported. The KCIALPHA utility, the APF-authorized version of KCIOMEGA, issues the same message.

**System action**

Processing continues.

**User response**

None required.

**KFU00002I: *command* processing is about to commence; MEMBER=*name* DDNAME=*name* DSN=*name***

**Explanation**

A command to process a sub-workflow (**INVOKE**) or read parameters (**CONFIG**) is about to commence. The source member, ddname, and data set name are reported.

**System action**

For **INVOKE**, the sub-workflow is given control, returning the invoking workflow upon completion. For **CONFIG**, the parameters are read in and made available for the workflow to reference.

**User response**

None required.

**KFU00003I: Workflow task recap: Programs=*program\_count* MaxRC=*max\_program\_rc* REXX=*rexx\_exec\_count* MaxRC=*max\_rexx\_rc***

**Explanation**

Workflow processing has ended. The number of programs and REXX execs that were invoked is reported, along with the maximum return code for each.

**System action**

Processing ends.

**User response**

If either return code is greater than zero, then look in the KCIPRINT sysout data set for error or warning messages that indicate the cause of the problem and recommend corrective action. The return code issued in message KFU00004I will help determine if the return codes issued in KFU00003I are acceptable. If you suspect an error, contact IBM Software Support.

**KFU00004I: KCIOMEGA is ending; RC=*return\_code* SYSPLEX=*sysplex\_name* LPAR=*LPAR\_name* DATE=*date\_and\_time***

**Explanation**

The KCIOMEGA workflow utility is ending. The reported return code, *return\_code*, represents the maximum return code for the Configuration Manager action that was performed. The message also provides the system information, date, and time.

Return code	Description
0	The workflow completed with no errors.

Return code	Description
4	<p>The workflow completed with one or more warnings. To determine the significance of the warnings, review the preceding messages in the KCIPRINT sysout data set and also, if necessary, KCITRACE.</p> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Tip:</b> The <b>DISCOVER</b> action ends with return code 4 if you are performing <i>rediscovery</i>: if you have previously performed discovery for an LPAR, and RTEDEF (<i>Kpp@lpar</i>) members already exist. Instead of overwriting those members, the <b>DISCOVER</b> action writes RTEDEF (<i>Kpp#lpar</i>) members. For details, see <a href="#">“Members created by the DISCOVER action”</a> on page 245.</p> </div>
8	The workflow stopped processing due to an unrecoverable error.

The workflow can also set its own return code via the **STOP** command.

### System action

Processing ends.

### User response

If the return code is greater than zero, then a previous error or warning message indicates the cause of the problem and recommends corrective action.

### KFU00005I: Program is about to be invoked; PROGRAM=*name*

#### Explanation

The program is about to be invoked to perform a task.

#### System action

The program is given control, typically as a subtask.

#### User response

None required.

### KFU00006I: Program has ended; PROGRAM=*name* OUTPUT=*output* WORKFLOW=*workflow* STEP=*step* RC=*return\_code*

#### Explanation

The program has ended with the reported return code. The program is deemed to have succeeded because the return code is expected. Specifically, the return code is less than the MAXRC setting of the active workflow.

#### System action

Processing continues.

#### User response

No action is required.

### KFU00007E: Program has abnormally terminated; PROGRAM=*name* ABEND=*system code*

#### Explanation

The program has abnormally terminated with the reported system code.

#### System action

Processing of the workflow stops.

### **User response**

*z/OS® MVS™ System Codes* in IBM® Documentation describes the abend system code. Additional diagnostic messages may be recorded in the job log. The abend system code or job log messages may recommend or indicate corrective action. Otherwise, re-run the job with a SYSUDUMP DD to generate a dump and report the problem to IBM® Software Support.

### **KFU00008I: Workflow was told to stop**

#### **Explanation**

The **STOP** command was issued by the workflow, typically as a result of an error condition, incorrect parameter input, or further action required.

#### **System action**

Processing of the workflow stops.

#### **User response**

See the KCIPRINT sysout data set for a message that describes why the workflow stopped, and then perform the recommended action.

### **KFU00009E: Workflow has stopped due to an unrecoverable error**

#### **Explanation**

An unrecoverable error occurred in the workflow.

#### **System action**

Processing of the workflow stops.

#### **User response**

A previous error or warning message will indicate the cause of the problem and recommend corrective action.

### **KFU00010E: DD statement is missing, DDNAME=KCIPRINT or KCITRACE**

#### **Explanation**

The reported file, either KCIPRINT or KCITRACE, is not allocated. If it is not explicitly specified in the job's JCL as a DD statement, then it is dynamically allocated to SYSOUT=\*. Therefore, this error should not occur in normal circumstances and indicates an environmental problem that KCIOMEGA cannot recover from.

#### **System action**

Processing stops.

#### **User response**

Check in the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

### **KFU00011E: DD statement is missing, DDNAME=*name***

#### **Explanation**

The reported file, typically a system-generated ddname, is not allocated. The file was dynamically allocated but could not be found. This error should not occur in normal circumstances and indicates an environmental problem that KCIOMEGA cannot recover from.

#### **System action**

Processing stops.

#### **User response**

Check in the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

**KFU00012E: MVS™ service has failed; MACRO=BLDL PROGRAM=*name* R15=*return code* R0=*reason code***

**Explanation**

The reported program, about to be run by the workflow, could not be located.

**System action**

Processing stops.

**User response**

For return code 4, check that the program exists in the workflow STEPLIB. For all other return codes, refer to the **BLDL** completion codes in IBM® Documentation for corrective action. Otherwise, contact IBM® Software Support.

**KFU00013E: MVS™ service has failed; MACRO=LOAD PROGRAM=*name* R1=*system code* R15=*reason code***

**Explanation**

The reported program, about to be run by the workflow, could not be loaded.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the failed load request. A common abend condition is S806-04 indicating that the module could not be found. Check that the program exists in the workflow STEPLIB. Otherwise, contact IBM® Software Support.

**KFU00014E: MVS™ service has failed; MACRO=LINK PROGRAM=*name* R1=*system code* R15=*reason code***

**Explanation**

The reported program, about to be run by the workflow, could not be invoked.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the failed link request. A typical abend condition is S806-04 indicating that the module could not be found. Check that the program exists in the workflow STEPLIB. Otherwise, contact IBM® Software Support.

**KFU00015E: MVS™ service has failed; MACRO=ATTACH PROGRAM=*name* R15=*return code***

**Explanation**

The reported program, about to be run by the workflow, could not be invoked.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the failed attach request. Refer to the **ATTACH** return codes in IBM® Documentation for corrective action. Otherwise, contact IBM® Software Support.

**KFU00016E: Program has failed; PROGRAM=*name* OUTPUT=*output*  
WORKFLOW=*workflow* STEP=*step* RC=*return\_code***

**Explanation**

The program invoked by the workflow has ended with the reported return code. The program is deemed to have failed because the return code is higher than expected. Specifically, the return code is not less than the MAXRC setting of the active workflow.

**System action**

Processing stops.

**User response**

The failing program will typically issue its own error messages to indicate the cause of the problem and recommend corrective action. These messages can be written to the following locations:

- In the KCIPRINT or KCITRACE sysout data set, immediately prior to this message.
- The output data set associated with the program or utility. OUTPUT=*output* in the error message identifies this data set.
- The job log containing the system messages for the job.

IBM Z® Monitoring Configuration Manager uses system and OMEGAMON® utilities to configure the runtime environment. These utilities control their own output messages; those messages will typically not appear in KCIPRINT or KCITRACE.

Utilities such as IEBGENER, IEBCOPY, and IDCAMS write messages to their SYSPRINT output data set. Note that the KCIOMEGA program might have renamed the SYSPRINT ddname to the name of the workflow step that invoked the program.

The OMEGAMON® utility KCIPARSE is used extensively to prepare the runtime members. Error messages might be written to either the associated SYSPRINT or to the job log.

If you cannot locate an associated error message or that message does not recommend corrective action, then contact IBM® Software Support.

**KFU00019E: Variable value end quote is missing; VAR=*name source***

**Explanation**

The reported variable or parameter has an invalid value. The value is assumed to be enclosed in quotes because it starts with a quote, but the end quote is missing. Additional information is recorded in the message to identify the source of the variable, typically the KCIVARS data set or an RTEDEF library member.

**System action**

Processing stops.

**User response**

1. Ensure that the variable value, if it contains embedded blanks, is enclosed in quotes.
2. Ensure that the variable value, including quotes, does not extend beyond column 70.
3. Retry the request.

**KFU00020E: CONFIG or INVOKE MEMBER= command has exceeded the maximum nesting level**

**Explanation**

The CONFIG or INVOKE command in the workflow could not be run because it will exceed the maximum level of command nesting permitted.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00021E: Command is invalid: *workflow statement*****Explanation**

The reported workflow statement has invalid syntax.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00022E: INVOKE member was not found; Member=*name* DSN=*name*****Explanation**

The workflow **INVOKE** command could not find the member to be invoked in the reported data set.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00023W: CONFIG member was not found; Member=*name* DSN=*name*****Explanation**

The workflow **CONFIG** command could not find the member to be processed in the reported data set.

**System action**

Processing continues, without any new parameters.

**User response**

If the workflow expects and requires the **CONFIG** member then create the member and re-run the job. If the **CONFIG** is intended to provide optional parameters only then no action is required.

**KFU00024E: RC is not in the range 0 to 2147483647: *return code*****Explanation**

The workflow tried to set the return code variable (RC) with a value outside the allowed range.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00025E: DD statement is missing, DDNAME=*name* RC=*return code*****Explanation**

The reported file, typically a system-generated ddname, is not allocated. The file was dynamically allocated but could not be found. This error should not occur in normal circumstances and indicates an environmental problem that KCIOMEGA cannot recover from.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

**KFU00026E: DD OPEN error, DDNAME=*name* ABEND=*system code-reason code*****Explanation**

The reported file, typically a system-generated ddname, could not be opened. A common abend condition is S913 indicating that access to the data set is not allowed by the security server, such as RACF®.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

**KFU00027E: Copy I/O error, DDNAME=*name* ABEND=*system code-reason code*****Explanation**

The request to copy data from one file to another has failed.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

**KFU00028E: TCP/IP settings are not available; RET=*return\_code* REAS=*reason\_code*  
REQUEST=BPX1*xxx* GET*yyyyyyyyy*****Explanation**

The request to fetch TCP/IP settings has failed. The request originated from either BPX1HST GETHOSTNAME or BPX1GAI GETADDRINFO.

**System action**

Processing stops.

**User response**

If this error was seen in security exits processing, check if z/OS Integrated Cryptographic Service Facility (ICSF) is active on the system where the configuration job is run. Otherwise contact IBM® Software Support.

**KFU00030E: Workflow command is not recognized; Member=*name* Line=*number*****Explanation**

The workflow encountered a command that was not recognized. The workflow member name and line number within the workflow identify the offending command.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00031E: JCL statement has a syntax error; Member=*name* Line=*number***

**Explanation**

The workflow encountered a JCL statement that was not recognized. The workflow member name and line number within the workflow identify the offending statement.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00032E: Workflow command is invalid, Member=*name* Line=*number***

**Explanation**

The workflow encountered a command with invalid syntax or used out of context. The workflow member name and line number within the workflow identify the offending command.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00037E: String in quotes is not terminated; Member=*name* Line=*number***

**Explanation**

The workflow encountered a string that started with a quote but was not terminated with a quote. The workflow member name and line number within the workflow identify the offending command.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00040E: JCL statement name is longer than 8; *statement***

**Explanation**

The reported JCL statement has a name longer than 8 characters. For an EXEC statement this is the step name. For a DD statement this is the ddname.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00041E: JCL statement operation is not EXEC or DD; *statement***

**Explanation**

The reported JCL statement does not specify a recognized operation. Only EXEC and DD statements are supported.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00042E: DD statement has an unsupported keyword parameter value; *parameter*****Explanation**

The reported JCL DD statement has specified a keyword parameter with an unsupported value. Only some of the actual JCL DD statement parameter values are supported in workflows.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00043E: DD statement keyword parameter value is missing; *parameter*****Explanation**

The reported JCL DD statement has specified a keyword parameter that has no value. This typically occurs when the value is parameterized, and the parameter is not defined or has no value. Some parameters support missing or null values, in which case the system default is used. Other keyword parameters, such as **DSNAME**, if specified in the DD statement must be resolved to an allowed value.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00044W: DD statement keyword parameter is not recognized; *statement*****Explanation**

The reported JCL DD statement has specified a keyword parameter that is not supported in workflows. Only some of the actual JCL DD statement parameters are supported in workflows.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

**KFU00045E: EXEC statement has an unsupported keyword parameter value; *statement*****Explanation**

The reported JCL EXEC statement has specified a keyword parameter with an unsupported value. Only some of the actual JCL EXEC statement parameter values are supported in workflows.

**System action**

Processing stops.

**User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

## **KFU00046E: EXEC statement keyword parameter value is missing; *statement***

### **Explanation**

The reported JCL EXEC statement has specified a keyword parameter that has no value. This typically occurs when the value is parameterized, and the parameter is not defined or has no value. Some parameters support missing or null values, in which case the system default is used. Other keyword parameters, such as **PGM**, must be resolved to an allowed value.

### **System action**

Processing stops.

### **User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

## **KFU00047W: EXEC statement keyword parameter is not recognized; *statement***

### **Explanation**

The reported JCL EXEC statement has specified a keyword parameter that is not supported in workflows. Only some of the actual JCL EXEC statement parameters are supported in workflows.

### **System action**

Processing stops.

### **User response**

If the problem occurs in an IBM®-supplied workflow then contact IBM® Software Support.

## **KFU00050E: DYNALLOC request has failed; REQUEST=ALLOC EC=*error code* IC=*information code* DSN=*data set name***

### **Explanation**

The DD statement in the workflow failed dynamic allocation with the reported error code. The message severity is reduced to a warning if the dynamic allocation is used only to check for the existence of the data set. Additional messages issued by dynamic allocation will be reported immediately after this message, explaining the problem.

### **System action**

Processing stops when the message severity is an error. Processing continues when the message severity is a warning.

### **User response**

Refer to the additional messages issued by dynamic allocation for corrective action. If the problem persists then contact IBM® Software Support.

## **KFU00051I: DYNALLOC request has failed; REQUEST=ALLOC EC=*error code* IC=*information code* DSN=*data set name***

### **Explanation**

The DD statement in the workflow failed dynamic allocation with the reported error code. The dynamic allocation error is informational because the allocation is used only to check for the existence of the data set, or to allocate it. The **WARNING=RETURN** option was specified in the DD statement.

See message KFU00050E for more information about dynamic allocation errors.

### **System action**

Processing continues.

### **User response**

None required.

**KFU00055E: MVS™ service has failed; MACRO=\$SWAREQ R15=*return code*  
SVA=*address* CB=*control block name***

**Explanation**

An internal service similar to SWAREQ was invoked to extract an SWA control and has failed.

**System action**

Processing stops.

**User response**

If the problem persists then contact IBM® Software Support.

**KFU00060E: DD statement is missing, DDNAME=*name* RC=*return code***

**Explanation**

The reported file, typically a system-generated ddname, is not allocated. The file was dynamically allocated but could not be found. This error should not occur in normal circumstances and indicates an environmental problem that KCIOMEGA cannot recover from.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

**KFU00061E: MVS service has failed; MACRO=DESERV FUNC=GET R15=*return code*  
R0=*reason code* DDNAME=*name* DSN=*name***

**Explanation**

The DESERV system service was invoked to provide information about a member in a data set, but failed with the reported return code.

**System action**

Processing stops.

**User response**

Check the job log for system messages associated with this service and take corrective action. Otherwise contact IBM® Software Support.

**KFU00062I: PDS library data set is empty; MACRO=DESERV FUNC=GET\_ALL  
R15=*return code* R0=*reason code* DDNAME=*name* DSN=*name***

**Explanation**

The DESERV system service was invoked to provide the list of members in a data set, but the data set is empty.

**System action**

Processing continues.

**User response**

None required.

**KFU00063E: MVS™ service has failed; MACRO=DESERV FUNC=GET\_ALL R15=*return code* R0=*reason code* DDNAME=*name* DSN=*name***

**Explanation**

The DESERV system service was invoked to provide the list of members in a data set, but failed with the reported return code.

**System action**

Processing stops.

**User response**

Check the job log for system messages associated with this service and take corrective action. Otherwise contact IBM® Software Support.

**KFU00064E: REXX service has failed; Routine=IRXEXCOM RETC=*return code* VAR=*name***

**Explanation**

The IRXEXCOM service was invoked to set the value of a REXX variable but failed with the reported return code.

**System action**

The REXX exec will throw an exception that either causes the exec to fail or give unpredictable results.

**User response**

Contact IBM® Software Support.

**KFU00070E: DD statement is missing, DDNAME=*name* RC=*return code***

**Explanation**

The reported file, typically a system-generated ddname, is not allocated. The file was dynamically allocated but could not be found. This error should not occur in normal circumstances and indicates an environmental problem that KCIOMEGA cannot recover from.

**System action**

Processing stops.

**User response**

Check the job log for messages associated with the ddname and take corrective action. Otherwise contact IBM® Software Support.

**KFU00071E: MVS™ service has failed; MACRO=DESERV FUNC=DELETE R15=*return code* R0=*reason code* DDNAME=*name* DSN=*name***

**Explanation**

The DESERV system service was invoked to delete a member in a data set, but failed with the reported return code.

**System action**

Processing stops.

**User response**

Check the job log for system messages associated with this service and take corrective action. Otherwise contact IBM® Software Support.

**KFU00072E: MVS™ service has failed; MACRO=STOW FUNC=DELETE R15=12 R0=1234  
DDNAME=12345678 DSN=**

**Explanation**

The STOW system service was invoked to delete a member in a data set, but failed with the reported return code.

**System action**

Processing stops.

**User response**

Check the job log for system messages associated with this service and take corrective action. Otherwise contact IBM® Software Support.

**KFU00080E: REXX service has failed; Routine=IRXINIT RETC=*return code*  
REAS=*reason code***

**Explanation**

The IRXINIT service was invoked to initialize the REXX environment but failed with the reported return code.

**System action**

Processing stops.

**User response**

Contact IBM® Software Support.

**KFU00081I: REXX routine is about to be invoked; EXEC=*name***

**Explanation**

The REXX exec is about to be invoked to perform a task.

**System action**

The exec is given control under the control of the REXX environment.

**User response**

None required.

**KFU00082I: REXX routine has completed; EXEC=*name* OUTPUT=*output*  
WORKFLOW=*workflow* STEP=*step* RC=*return\_code***

**Explanation**

The REXX exec has ended with the reported return code. The REXX exec is deemed to have succeeded because the return code is expected. Specifically, the return code is less than the MAXRC setting of the active workflow.

**System action**

Processing continues.

**User response**

No action is required.

**KFU00083E: REXX service has failed; Routine=IRXTERM RETC=*return code***

**Explanation**

The IRXTERM service was invoked to terminate the REXX environment but failed with the reported return code.

**System action**

Processing stops.

**User response**

Contact IBM® Software Support.

**KFU00084E: REXX service has failed; Routine=IRXEXCOM RETC=*return code***

**VAR=*name***

**Explanation**

The IRXEXCOM service was invoked to set the value of a REXX variable but failed with the reported return code. The service was invoked during REXX initialization to populate the REXX variable pool with the workflow variables.

**System action**

The REXX exec will be processed, but some of the workflow variables will not be available to the REXX exec.

**User response**

Contact IBM® Software Support.

**KFU00085E: REXX service has failed; Routine=IRXSAY RETC=*return code*****Explanation**

The IRXSAY service was invoked to write a message to the REXX output file but failed with the reported return code.

**System action**

The message is not issued and the REXX exec processing continues. The message was likely written to the KCITRACE sysout data set as a backup.

**User response**

Contact IBM® Software Support.

**KFU00086E: REXX routine has failed; EXEC=*name* OUTPUT=*output***

**WORKFLOW=*workflow* STEP=*step* RC=*return\_code***

**Explanation**

The REXX exec invoked by the workflow has ended with the reported return code. The REXX exec is deemed to have failed because the return code is higher than expected. Specifically, the return code is not less than the MAXRC setting of the active workflow.

**System action**

Processing stops.

**User response**

The failing REXX will typically issue its own error messages to indicate the cause of the problem and recommend corrective action. These messages can be written to the following locations:

- In the KCIPRINT or KCITRACE sysout data set, immediately prior to this message.
- The output data set associated with the REXX exec. OUTPUT=*output* in the error message identifies this data set.
- The job log containing the system messages for the job.

REXX typically writes messages to the SYSTSPRT output data set. The KCIOMEGA program might have renamed the SYSTSPRT ddname to the name of the workflow step that invoked the REXX.

If you cannot locate an associated error message or that message does not recommend corrective action, then contact IBM® Software Support.

**KFU00090E: Command is not recognized; REXX=*name* COMMAND=*command***

**Explanation**

The KCIEXEC host command environment set up for REXX processing did not recognize the command in the exec.

**System action**

The REXX exec will throw a failure that will either stop exec processing or cause unpredictable results.

**User response**

If the REXX is supplied by IBM® then contact IBM® Software Support.

**KFU00091E: Command is not recognized; REXX1=*name* REXX2=*name*  
COMMAND=*command***

**Explanation**

This message is a variation of message KFU00090E. In this case, the REXX exec that issued the command is not the original EXEC REXX=*name* specified in the workflow. REXX1 is the original workflow exec and REXX2 is the most recently called exec.

**System action**

The REXX exec will throw a failure that will either stop exec processing or cause unpredictable results.

**User response**

If the REXX is supplied by IBM® then contact IBM® Software Support.

**KFU00092W: Command is not supported; REXX=*return code* COMMAND=*command***

**Explanation**

The KCIEXEC host command environment set up for REXX processing recognized the command but does not support it. For example, the **SUBMIT** command is recognized but is not performed.

**System action**

The REXX exec treats the command as a null operation and continues.

**User response**

If the task needs to be performed then you must do that manually after the workflow has completed. For example, you can submit the job after the workflow has completed.

**KFU00093W: Command is not supported; REXX1=*name* REXX2=*name*  
COMMAND=*command***

**Explanation**

This message is a variation of message KFU00092W. In this case, the REXX exec that issued the command is not the original EXEC REXX=*name* specified in the workflow. REXX1 is the original workflow exec and REXX2 is the most recently called exec.

**System action**

The REXX exec treats the command as a null operation and continues.

**User response**

If the task needs to be performed then you must do that manually after the workflow has completed. For example, you can submit the job after the workflow has completed.

## **KFU00095E: REXX service has failed; Routine=IRXEXCOM RETC=*return code***

### **Explanation**

The IRXEXCOM service was invoked to fetch or store one or more REXX variables but failed with the reported return code. The service was invoked during the processing of a KCIEXEC request.

### **System action**

The REXX exec will continue processing but results in exec or workflow will be unpredictable.

### **User response**

If the REXX is supplied by IBM® then contact IBM® Software Support.

## **KFU00100W: Full discovery requires APF authorization; PROGRAM=*name***

### **Explanation**

The subsystem discovery service was invoked using a program that is not APF-authorized. KCIALPHA is the APF-authorized version of KCIOMEGA and is recommended for discovery. If KCIALPHA is the program that was used, then the job's STEPLIB data set is not an APF-authorized library.

### **System action**

Discovery continues, all the subsystems will be discovered, but some of their attributes will be incomplete.

### **User response**

For a complete discovery, APF-authorize the TKANMOD library using the following system command:

```
SETPROG APF,ADD,DSNAME=hlg.TKANMOD,SMS
```

Otherwise manually edit the discovery members in the RTEDEF library to complete the process.

## **KFU00101W: Discovery has abended; ABEND=12345678 SSID=*name* PHASE=*diagnostics***

### **Explanation**

The subsystem discovery service has abended during the analysis of the reported subsystem. If the subsystem is not Db2®, MQ, CICS®, or IMS, then this is not a problem. This problem might occur when discovery is scanning control blocks to detect the type of subsystem, but encounters a control block whose storage is inaccessible.

### **System action**

Discovery ignores this subsystem and moves onto the next subsystem.

### **User response**

If the subsystem is Db2®, MQ, CICS® or IMS, then contact IBM® Software Support. Otherwise the message can be ignored.

## **KFU00102E: MVS™ service has failed; MACRO=ALESERV FUNCTION=ADD RC=*return code***

### **Explanation**

Discovery is using the ALESERV system service to access, via cross-memory, the subsystem address space in order to extract its discoverable information but the service has failed with the reported return code.

### **System action**

Discovery continues, the subsystem will be discovered, but some of its attributes will be incomplete.

### **User response**

If the problem persists then contact IBM® Software Support.

**KFU00103E: MVS™ service has failed; MACRO=ALESERV FUNCTION=DELETE  
RC=*return code***

**Explanation**

Discovery is using the ALESERV system service to terminate its access to the subsystem address space but the service has failed with the reported return code.

**System action**

Discovery continues, the subsystem is discovered, and its attributes will be incomplete.

**User response**

If the problem persists then contact IBM® Software Support.

**KFU00104E: MVS service has failed; MACRO=LOAD PROGRAM=EZBNMIFR  
R1=<*abend\_code*> R15=<*reason\_code*>**

**Explanation**

Network discovery could not load program EZBNMIFR, which is the TCP/IP NMI service. A common problem is the ABENDS806-04 module is not found. Typically, EZBNMIFR is in SYS1.CSSLIB, the common services library, which is always included in the LINKLIST.

**System action**

The TCPIP stacks are discovered with incomplete information.

**User response**

Copy module EZBNMIFR to the LINKLIST and retry the request. To proceed with the configuration process, first review member KN3@<*lpar*> in your RTEDEF library and correct the parameters.

**KFU00105E: NMI (EZBNMIFR) failed to get TN3270 settings; RET=<*return\_code*>  
REAS=<*reason\_code*> TCPIP=<*name*>**

**Explanation**

Network discovery issued a TCP/IP NMI service poll request to obtain the TN3270 servers with an affinity to the reported TCPIP stack. The request failed with the reported return and reason codes. When RET=0000006F, permission is denied (EACCES) because the discovery job is not APF authorized. Message KFU00100W is issued prior to this message and recommends corrective action.

**System action**

The TCPIP stacks are discovered with incomplete information.

**User response**

If the return code indicates a program error then contact IBM. To proceed with the configuration process, first review member KN3@<*lpar*> in your RTEDEF library and correct the parameters.

**KFU00110I: Some SYSOUT files were not deleted; count=*number***

**Explanation**

Some of the output files that are not important could not be deleted. The number of files not deleted is reported. The files will remain part of the output for the completed job.

**System action**

This situation does not impact the function being performed by the workflow and has no effect on the final return code of the job. Processing continues.

**User response**

If the situation occurs in an IBM-supplied workflow, then contact IBM Software Support.

**KFU00111I: SYSOUT file delete was requested; DDNAME=*name* DSN=*name***

**Explanation**

The output file is not important, and its delete request was sent to JES2. In certain situations, the request may not be successful. This occurrence is normal and can occur when the output is busy being processed by JES2.

**System action**

Processing continues. If the output was not deleted on the first attempt, then the request will be retried later.

**User response**

No action is required.

**KFU00112I: SYSOUT file is not used; DDNAME=*name* DSN=*name***

**Explanation**

The output file is eligible to be deleted but could not be found. It is likely that the file is already deleted because it was not used. You might consider removing it from the workflow.

**System action**

Processing continues.

**User response**

No action is required.

**KFU00113I: SYSOUT file could not be located; RDJFCB RC=*return\_code*  
DDNAME=*name***

**Explanation**

The output file is eligible to be deleted because it is not important. However, it will not be deleted because its JES data set name could not be located. The file will remain part of the output for the completed job.

**System action**

This situation does not impact the function being performed by the workflow and has no effect on the final return code of the job. Processing continues.

**User response**

If the situation occurs in an IBM-supplied workflow, then contact IBM Software Support.

**KFU00114I: JES STATUS request failed: FUNCTION=SSST(80) STATTYPE=*code*  
RC=*return\_code* SSOBRETN=*return\_code* STATREAS=*reason\_code*  
JOBNAME=*name* JOBID=*id***

**Explanation**

The JES subsystem interface Extended status function call (SSI 80) was made to locate the output files created by the workflow steps. The request failed with the reported return and reason codes. SYSOUT files that are not important are not deleted and will remain part of the output for the completed job.

**System action**

This situation does not impact the function being performed by the workflow and has no effect on the final return code of the job. Processing continues.

**User response**

If the situation occurs in an IBM-supplied workflow, then contact IBM Software Support.

**KFU00115I: SYSOUT Application Program Interface (SAPI) failed; FUNCTION=SSS2(79)  
SSS2TYPE=code SSS2UFLG=flag RC=return\_code SSOBRETN=return\_code  
SSS2REAS=reason\_code DDNAME=name CTOKEN=string**

**Explanation**

The JES subsystem interface SYSOUT application program interface (SAPI SSI=79) call was made to delete an output file that is not important. The request failed with the reported return and reason codes. The SYSOUT file is not deleted and will remain part of the output for the completed job.

**System action**

This situation does not impact the function being performed by the workflow and has no effect on the final return code of the job. Processing continues.

**User response**

If the situation occurs in an IBM-supplied workflow, then contact IBM Software Support.

**KFU00116I: SYSOUT file delete request failed; DDNAME=name DSN=name  
STATUS=code CTOKEN=string**

**Explanation**

The output file is not important but could not be deleted. Status information is recorded for diagnostic purposes.

**System action**

This situation does not impact the function being performed by the workflow and has no effect on the final return code of the job. Processing continues.

**User response**

If the situation occurs in an IBM-supplied workflow, then contact IBM Software Support.

**KFU00140E: REXX service has failed; Routine=IRXEXCOM RETC=return code  
VAR=name**

**Explanation**

The IRXEXCOM service was invoked to fetch or store REXX variable but failed with the reported return code. The service was invoked during KCIEXEC command processing of a VGET or VPUT request.

**System action**

The REXX exec will throw an exception that either causes the exec to fail or give unpredictable results.

**User response**

Contact IBM® Software Support.

**KFU00142E: Command syntax or parameter is not supported; REXX=name  
COMMAND=LISTDS**

**Explanation**

The REXX exec issued the TSO/E LISTDS command. The request was intercepted and processed as a KCIEXEC command. A command parameter was not recognized.

**System action**

The command is not processed, and the exec throws an exception. The results of the exec are unpredictable unless the exec handles error conditions.

**User response**

If the REXX exec is supplied by IBM® then contact IBM® Software Support.

**KFU00143E: Command syntax or parameter is not supported; REXX1=*name*  
REXX2=*name* VAR=*name* COMMAND=LISTDS**

**Explanation**

This message is a variation of message KFU00142W. In this case, the REXX exec that issued the command is not the original EXEC REXX=*name* specified in the workflow. REXX1 is the original workflow exec and REXX2 is the most recently called exec.

**System action**

The REXX exec will throw an exception that either causes the exec to fail or give unpredictable results.

**User response**

Contact IBM® Software Support.

**KFU00144E: REXX service has failed; Routine=IRXEXCOM RETC=*return code*  
VAR=*name***

**Explanation**

The IRXEXCOM service was invoked to set the value of a REXX variable but failed with the reported return code. The service was called by the LISTDS command.

**System action**

The REXX exec will throw an exception that either causes the exec to fail or give unpredictable results.

**User response**

Contact IBM® Software Support.

**KFU00145E: DD statement is missing, DDNAME=*name***

**Explanation**

The reported file, typically a system-generated ddname, is not allocated. The file was dynamically allocated but could not be found. This error should not occur in normal circumstances and indicates an environmental problem that KCIOMEGA cannot recover from. This error is associated with the processing of a TSO/E CALL command issued in a REXX exec.

**System action**

The REXX exec will throw an exception that either causes the exec to fail or give unpredictable results.

**User response**

Contact IBM® Software Support.

**KFU00147E: Command syntax or parameter is not supported; REXX=*name*  
COMMAND=CALL**

**Explanation**

The REXX exec issued the TSO/E CALL command. The request was intercepted and processed as a KCIEXEC command. A command parameter was not recognized.

**System action**

The command is not processed, and the exec throws an exception. The results of the exec are unpredictable unless the exec handles error conditions.

**User response**

If the REXX exec is supplied by IBM® then contact IBM® Software Support.

**KFU00148E: Command syntax or parameter is not supported; REXX1=*name*  
REXX2=*name* COMMAND=CALL**

**Explanation**

This message is a variation of message KFU00147E. In this case, the REXX exec that issued the command is not the original EXEC REXX=*name* specified in the workflow. REXX1 is the original workflow exec and REXX2 is the most recently called exec.

**System action**

The command is not processed, and the exec throws an exception. The results of the exec are unpredictable unless the exec handles error conditions.

**User response**

If the REXX exec is supplied by IBM® then contact IBM® Software Support.

**KFU00149E: MVS™ service has failed; MACRO=LOAD PROGRAM=*name* R1=*system*  
code R15=*reason code***

**Explanation**

The REXX exec issued the TSO/E **CALL** command. The request was intercepted and processed as a KCIEXEC command. The call program could not be loaded.

**System action**

The command is not processed, and the exec throws an exception. The results of the exec are unpredictable unless the exec handles error conditions.

**User response**

Verify that the program being called is in the call library. Otherwise if the REXX exec is supplied by IBM® then contact IBM® Software Support.

**KFU00150E: Command syntax or parameter is not supported; REXX=*name*  
PROBLEM=*reason* COMMAND=ALLOC**

**Explanation**

The REXX exec issued the TSO/E **ALLOC** command. The request was intercepted and processed as a KCIEXEC command. A command parameter was not recognized. Not all the actual TSO/E **ALLOCATE** options are supported. The reported problem describes the option that is not supported.

**System action**

The command is not processed, and the exec throws an exception. The results of the exec are unpredictable unless the exec handles error conditions.

**User response**

If the REXX exec is supplied by IBM® then contact IBM® Software Support.

**KFU00151E: Command syntax or parameter is not supported; REXX1=*name*  
REXX2=*name* PROBLEM=*reason* COMMAND=ALLOC**

**Explanation**

This message is a variation of message KFU00150E. In this case, the REXX exec that issued the command is not the original EXEC REXX=*name* specified in the workflow. REXX1 is the original workflow exec and REXX2 is the most recently called exec.

**System action**

The command is not processed, and the exec throws an exception. The results of the exec are unpredictable unless the exec handles error conditions.

## User response

If the REXX exec is supplied by IBM® then contact IBM® Software Support.

## Parameter Generator (PARMGEN)

---

Parameter Generator, also known as PARMGEN, is an application that you can use to configure, replicate, maintain, and update runtime environments.

With PARMGEN, you edit a comprehensive list of parameters for all the installed products and components that you want to configure in an RTE. Then, PARMGEN generates the customized files needed to execute the products, and you submit a series of jobs to create the RTE with the parameter values you specified. You can edit the parameters and submit the jobs yourself, or you can use the PARMGEN Workflow interface.

The PARMGEN configuration software often determines default values best suited to your site and validates data assigned to parameters to ensure values are in range. It checks for prerequisites and tries to ensure data sets are allocated properly and that jobs run to proper completion.

However, the configuration software cannot determine all the specifics of your site, nor precisely what you want to do with the products. So you need to customize IBM® template files to configure the products to your specifications. For example, you are probably familiar with modifying the JCL used by applications to submit jobs. At a minimum, you typically have to modify vendor-supplied JCL to add a job card and to change various values to suit your site, such as those values that define the DASD used by the job.

To help facilitate the modifications you need to make to configuration files, the IBM-provided templates are standardized to use variables and string substitutions. The values for almost all of these customizable elements are set in a single location, an editable configuration Profile. The variables names are long enough to helpfully describe the purpose of the parameter.

Sometimes data larger than a single parameter needs to be added into a runtime file. For example, PARMGEN supplies a template job card that you customize once, adding as many lines of input as necessary for your site. The whole job card file gets embedded into template configuration profiles so that the JCL is ready to be submitted. The same concept applies to other types of embedded data, such as program SYSIN data that the configuration software may conditionally embed based on the settings in your RTE profile. The \$PARSE program reads the configuration profiles and the embed files and generates tailored user versions of the IBM® templates. The output files and jobs are first stored in a work data set, so that your production files are not replaced until you are ready to implement the changes.

Variables can be resolved during the \$PARSE process or left as symbolics and substituted at runtime. The use of variables reduces the number of changes you need to make if you clone the RTE to new systems, because system-specific values are automatically picked up by the variables.

Note that both the framework and the monitoring products require additional configuration outside the PARMGEN configuration software. For example, OMEGAMON® for Db2® requires that you run some bind procedures. These product-specific additional required configuration tasks are documented in the *Planning and Configuration Guide* for each product.

## Before you begin

To ensure a successful configuration, your system should be properly prepared before you begin and you should familiarize yourself with the parameter generator, or PARMGEN, configuration method. Use the information in this section to learn about configuring Tivoli® Management Services on z/OS® using PARMGEN and the configuration process and requirements common to the OMEGAMON® family of products. Then use the information in the *Planning and Configuration Guide* for each product to learn the product-specific configuration requirements.

- Ensure that you have completed SMP/E installation of the required levels of IBM® Tivoli® Management Services on z/OS® components and OMEGAMON® products for your monitoring environment. Check that all components that you want to configure are of the minimum supported level to support the PARMGEN method.
- Back up the %GBL\_TARGET\_HILEV%.TKAN\* target libraries that were installed by SMP/E. As a minimum, back up the %GBL\_TARGET\_HILEV%.TKANMOD and %GBL\_TARGET\_HILEV%.TKANCUS libraries.
- Apply the latest HKCI310 PTF to ensure that you have the latest version of PARMGEN support.
- Ensure that the following requirements for using the PARMGEN Workflow user interface are met:

- A minimum region size of 6000K for the TSO user session

**Note:** The PARMGEN Workflow user interface uses several standard TSO/E commands, and REXX and ISPF services. If you have modified or restricted access to any of these commands or services, the PARMGEN tool may not function correctly.

- If you are planning to configure a monitoring server on a z/OS® system and intend to enable the self-describing agent feature, ensure that you have created the appropriate directory structure on z/OS® UNIX™ System Services under the Hierarchical File System (HFS) or zSeries File System (zFS). This step is required to store and process the provided self-describing files. The monitoring server also requires a Java™ RTE running under the IBM® 31-bit or 64-bit JAVA SDK Version 5 (or higher), which is to be installed within the z/OS UNIX file system. A sample job to create a zFS file system is provided in the *gbl\_target\_hilev.TKANSAM(KCIUSSJB)* member.
- Read through the checklists available through the Welcome panel of the z/OS® Installation and Configuration Tools.

For information on configuring components on distributed systems such as Windows™, UNIX™, and Linux™, see the *IBM® Tivoli® Monitoring: Installation and Setup Guide*.

## The PARMGEN configuration method

Tivoli® Management Services on z/OS® and the OMEGAMON® family of products use the Parameter Generator, or PARMGEN, configuration method. With the PARMGEN method, you edit the parameters in several configuration profiles to configure all the products and components that run in a runtime environment (RTE). Then, you submit a series of jobs to create the RTE with the parameter values you specify. The PARMGEN Workflow interface provides a convenient way for you to navigate through the steps for creating a new RTE, cloning an existing RTE, or maintaining or upgrading an RTE.

### Workflow user interface

You can manually edit and submit the jobs necessary to set up and configure runtime environments. However, you can also use the Parameter Generator (PARMGEN) Workflow interface. The Workflow interface steps you through the process of editing the PARMGEN configuration profiles, and creating, editing, and submitting the jobs that set up and tailor the runtime environment. The interface also provides access to PARMGEN libraries and utilities.

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ===>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN? <=== Revised
```

When you select option 3, the following panel is displayed:

```

----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>                               Scroll ==> PAGE

                               Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).
Press F1=Help for more information.

GBL_USER_JCL:  -----
               (for example, TDITNT.DEV.ITM63053.SYSPLEX.PARMGEN.JCL)
               Specify the dataset name of the PARMGEN common/global
               library for the different LPAR runtime environments (RTEs).
               PARMGEN stores cross-RTE values for the RTEs created
               using the same GBL_USER_JCL PARMGEN common library.

RTE_PLIB_HILEV: -----
               Specify the High-Level Qualifier (&hlq) portion of the
               PARMGEN interim staging and work libraries for this LPAR RTE:
               - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
               - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
               - &hlq.&rte_name.WCONFIG

RTE_NAME:     ----- (Type ? for a list of configured RTEs)
               Specify the runtime environment (&rte_name) for this LPAR.

```

On this panel, you identify the runtime environment that you want to create or modify. After you enter the required values, the Workflow - Primary Option Menu is presented:

```

----- PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>                               Scroll ==> PAGE

                               Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TSTEST.&userid
RTE_NAME:     DEMO

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary,
      until the status of each step is RC=0. Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1.  Set up PARMGEN work environment for an RTE.  KCIJPCFG
2.  Customize PARMGEN configuration profiles.    $MDLHFV
3.  Create the RTE members and jobs.             $PARSESV  Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5.  Perform post configuration steps.            POSTCFG
R   Reset RTE, Status and Date fields. (Optional) New RTE

Press F1=Help for more information. Type UTIL to access utility menu.

```

See [Configuration workflow](#) for information about these options and the configuration process.

**Note:** The PARMGEN Workflow user interface uses several standard TSO/E commands, and REXX and ISPF services. If you have modified or restricted access to any of these commands or services, the PARMGEN tool may not function correctly. A minimum region size of 6000K is required for the TSO user session.

Any ISPF panel presented with a **More: - +** scroll indicator is scrollable upwards (denoted by **More: - +**) or scrollable downwards (denoted by **More: - -**). Scroll up or down using the standard ISPF keys assigned to scroll down (F7 key by default) or scroll up (F8 key by default).

### Configuration profiles

The configuration values for each runtime environment (RTE) are stored in *configuration profiles*. The *RTE configuration profile* contains the values for each runtime environment and for the components and products configured in it. The *global configuration profile* contains values for global system libraries. The *variables configuration profile* contains definitions of user-defined variables and RTE-specific system variables.

%RTE\_NAME%

The RTE-specific configuration file. This file contains parameters that define the configuration for the RTE itself, for infrastructure components and features, and for the product configured in the runtime environment. This profile is named for the runtime environment and is stored in the WCONFIG data set. The RTE configuration profile contains two types of parameters:

- RTE\$/RTE\_\* parameters, which specify values for the RTE.
- Kpp\$\* or Kpp\_\* parameters (where Kpp is the three-letter code for a component or product), which specify product-specific values.

This profile is customized by the KCIJPUP1 job with values provided during the setup of the work environment. Default values are provided for all required parameters and some optional ones.

Customization of this profile is required provide to override defaults and specify custom or site-specific values and to enable optional features.

### **\$GBL\$USR**

The configuration file for global or common system libraries and other common values that can be shared across different products. This file can be copied to other runtime environments if these global system libraries are typically the same across RTEs. This profile is stored in the WCONFIG data set. The parameters in this profile all begin with GBL\_\*.

Review of the \$GBL\$USR profiles is required to customize product-specific GBL\_\* common or global parameters that may apply to more than one product or apply to several components within a product family.

### **%GBL\_USR\_JCL(%RTE\_NAME%)**

Variables configuration file. The variables used in PARMGEN configuration and their resolved values are defined in a resolution member named GBL\_USER\_JCL(%RTE\_NAME%). This member is referred to as the *variables configuration profile*. If support for variables has been enabled for a runtime environment, any user-defined variables and their resolution values must be defined in the variables configuration profile. Any system variables whose resolution values cannot be determined from the IPL PARMLIB must also be defined.

A small subset of parameters cannot use variables. See [Parameters ineligible to use variables](#) in the Reference section for more information.

PARMGEN maintains default RTE (\$CFG\$IBM) and global profiles (\$GBL\$IBM), which are used as the templates for user-customized profiles. These default profiles are refreshed with any new or changed configuration parameters when the KCIJPUP1 job is run during upgrades or maintenance.

Default values are provided for all required parameters and for some optional parameters. If you do not want to customize these parameters, and you do not want to enable optional features, you can complete the configuration by accepting these defaults. Otherwise, you can specify custom values for these parameters. You can also specify custom values for optional parameters that have no defaults.

**Tip:** The PARMGEN configuration profiles can have a large number of parameters to review. It might be useful, therefore, to exclude certain PARMGEN parameters while you focus on a particular configuration task. For example, exclude all PARMGEN parameters that are for started tasks. Then, find all occurrences of these parameters so you can quickly use a CHANGE ALL command. PARMGEN configuration provides an EXCLUDE-FIND (XF) macro for this task (see [“XF edit macro” on page 426.](#)).

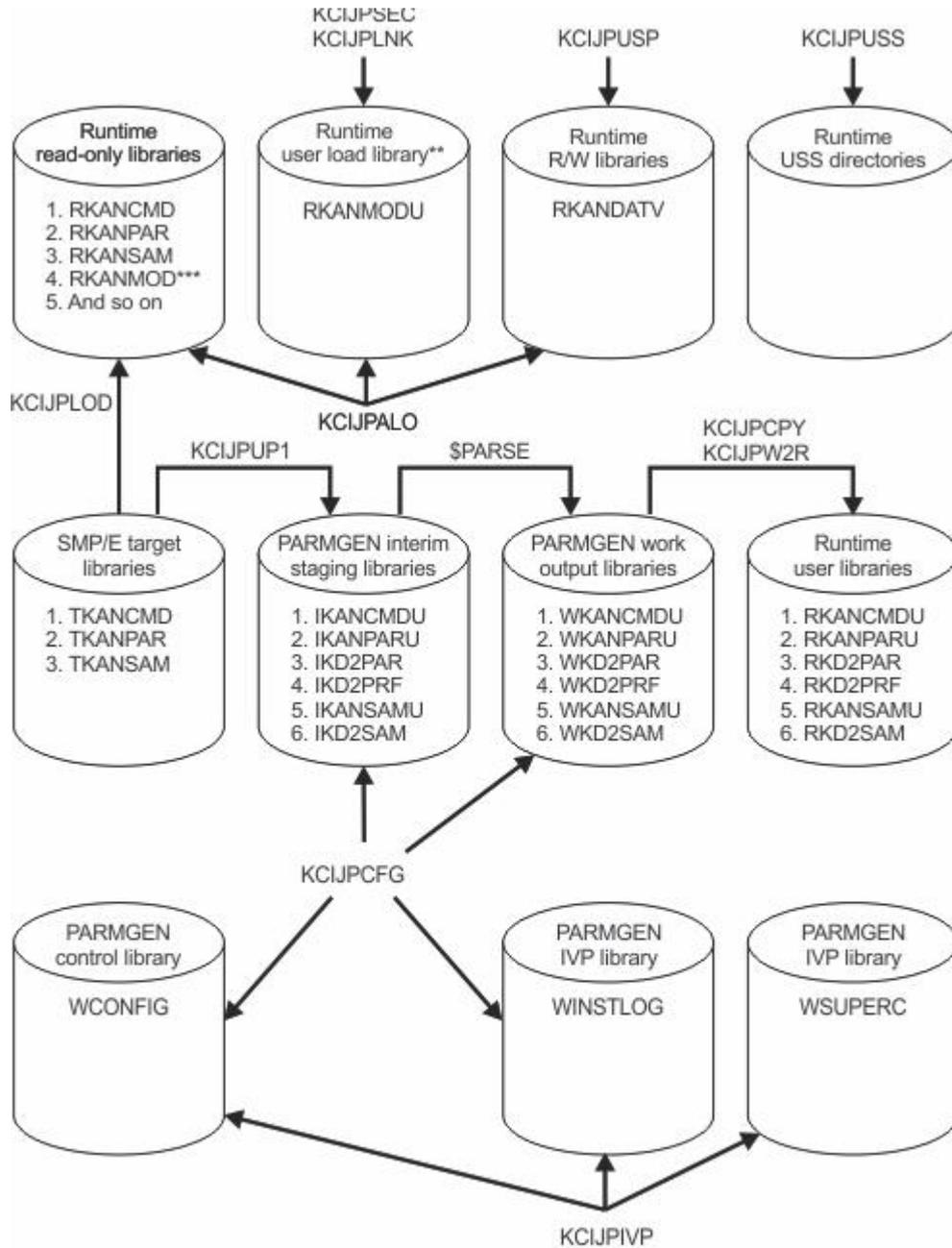
For help with the parameter values, consult the following resources:

- Comments in the profiles
- Online help for parameters (F1)
- [“Common parameters” on page 1257](#)
- The *Parameter Reference* for each product

## **PARMGEN batch jobs**

Using the PARMGEN method, you create runtime environments by submitting a series of batch jobs. These jobs are tailored with the values you specify in the configuration profiles, and with the values you supply either by editing the jobs directly or by providing values in the PARMGEN Workflow configuration panels.

“Figure: PARMGEN libraries and the PARMGEN jobs that create and populate them” on page 417 shows the PARMGEN-created jobs and the libraries that they create and populate, grouped by functional area.



\*\* For security and global modules

\*\*\* %KD2\* libraries are allocated if the OMEGAMON XE for DB2 PE/PM component is configured in the runtime environment (RTE).

Figure 71: PARMGEN libraries and the PARMGEN jobs that create and populate them

The \$JOBINDX member is an index of jobs used by PARMGEN. The names and descriptions of the jobs are presented in the order in which they should be submitted. You can review this file from anywhere in the Workflow interface by entering UTIL on the command line.

## Override embed members

A PARMGEN configuration creates a set of files that get embedded in a number of the most commonly updated runtime members in the user libraries. These embed files can be used to add new user-defined parameters that might otherwise be overwritten when maintenance or upgrades are performed, or to override existing values.

The embed files include the following members:

Kpp\$C\*,  
Kpp\$P\* and Kpp@P\*  
Kpp\$S\*  
KCI\$XW2R

where \* represents either ENV, SYSIN, or *started\_task\_name*. The embed members are copied from the IK\* interim staging libraries to the corresponding WCONFIG PARMLIB control library by the KCIJPUP1 (Refresh IK\* templates/WCONFIG \*\$IBM profiles) job, or the KCIJPPRF profile refresh job which is equivalent to the KCIJPUP1 job except the user LPAR RTE profile is refreshed automatically. These members are then embedded into the appropriate members (such as started tasks and profiles) by the \$PARSE or \$PARSESV job. For a list of embed files, the library in which the affected member is located, and the purpose of the embed file, see [Customizing the override embed members](#).

To enable the embed parameters, complete the following steps.

- For an existing Run Time Environment (RTE):
  - a. Edit %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(&imbed\_name) referenced by the enabling product PTF or new product version. Modify the parameter accordingly before rerunning the WCONFIG(\$PARSE) job.

**Note:** The new default parameter is typically introduced in a PARMGEN APAR maintenance. For existing RTEs created before the PARMGEN APAR that introduced the new parameter, the WCONFIG(&imbed\_name) already exists. To enable the function, add the new override parameter to WCONFIG(&imbed\_name).

- b. Submit WCONFIG(\$PARSEPR) job to recreate the RTE's %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WKANPARU(&runtime\_member) where the &imbed\_name is imbedded.
  - c. Submit WKANSAMU(KCIJPW2R) job to refresh the &runtime\_member from the PARMGEN work dataset (WKANPARU for example) to the corresponding product execution user library (RKANPARU for example) when you are ready to stage your runtime member updates.
  - d. Recycle the product started task.
  - e. Repeat step 1 to step 4 for additional RTEs that will enable the function.
- For a new Run Time Environment (RTE):
    - a. Follow the preferred RTE Implementation Scenario documented in [Implementation scenarios](#).
    - b. As part of the "Customizing the configuration profiles" step, edit %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(&imbed\_name) that will override the WKANPARU(&runtime\_member). Modify the parameter accordingly before rerunning the WCONFIG(\$PARSE) job.
    - c. Complete the remaining steps as documented in the RTE Implementation Scenario.

To preserve these customizations, embed files are not overlaid during maintenance or upgrades. To refresh the files, you must rename them. Then, after the new files have been created, you can merge back in any customizations you have made from the backed up version.

Edit the embed files before you run the \$PARSE (or \$PARSESV) job. You can edit the files using the PARMGEN Workflow interface. Select option **4** on the **Customize PARMGEN Profile Members** panel, or enter **UTIL** on the command line of any Workflow panel to access the **Utilities** panel and select the WCONFIG library (option **7**). After you customize the files, you can copy the tailored versions from one runtime environment to another. You can use the KCIJPCCF utility job to copy them.

The OLDWCNFG DDNAME in the KCIJPCCF job can be edited to copy the imbeds from either another RTE's WCONFIG dataset, or the PARMGEN IK\* template datasets. Consider the following conditions before submitting the \$PARSE job.

- WCONFIG override imbeds are preserved.
- Review the deltas and implement the changes accordingly if you want to exploit the changes. You can rename the WCONFIG(Kpp\$\*) imbed prior to resubmitting the KCIJPPRF or KCIJPUP1 job if you want to refresh your copy. Note that these members are typically preserved so KCIJPPRF or KCIJPUP1 job will not update your WCONFIG(Kpp\$\*) user copy if the imbed already exists in WCONFIG library. Merge back your original customizations accordingly into the refreshed WCONFIG override imbed.
- Kpp\$\* refresh considerations:

- KCIJPPRF profile refresh job is rebuilt by the KCIJPCFG if you provide a backup LPAR RTE profile name.
- The quickest way to find deltas is to compare your original WCONFIG imbed (backup copy) with the refreshed version or with the copy in the respective PARMGEN IK\* library. For example, if an imbed is called WCONFIG(Kpp\$PENV), this imbed is processed by the \$PARSE job into the WKANPARU(KppENV) runtime member. It means that the IBM default version of Kpp\$PENV is in the PARMGEN IKANPARU library. The preserved user copy is in your WCONFIG(Kpp\$PENV).
- If you want to move the Kpp\$\* imbeds out of the WCONFIG dataset into a new backup dataset, you can use the KCIRMVCP macro. See *KCIRMVCP move/copy/allocate macro and KCIPCPY\* panels help* topic for more information. Once the imbeds are removed from the WCONFIG dataset, the KCIJPUP1 or KCIJPPRF job will copy the latest versions of the imbeds from the PARMGEN IK\* template datasets to the RTE's WCONFIG dataset.

Individual products may include their own embed members. See the product configuration documentation for more information.

## Model configuration profiles

PARMGEN provides a number of model profiles to be used as templates for creating runtime environments (RTEs). These templates make it easy for users who do not need site-customized environments to quickly create RTEs of the most frequently built types.

**Important:** If you use one of the PARMGEN model profiles described in this topic to create your runtime environment, you will need to make updates to the configuration to support the latest product features and best practices.

For an improved process of creating your runtime environment that automatically uses the most current and recommended settings, consider moving to Configuration Manager. For more information, see [“Best practices for configuring OMEGAMON products and components” on page 213](#).

The IBM-provided models are copied to the % RTE\_PLIB\_HILEV%.%RTE\_NAME%.RKANSAMU library. You select a configuration to use as the model for your RTE when you set up the work libraries by entering a question mark (?) in the model profile field on the **Set up PARMGEN Work Environment for an RTE (1 of 3)** panel (KCIPQPG1).

The \$MDLVARS model contains symbols for the best-practice variables. Cloning the \$MDLVARS member substitutes the symbols for a subset of parameter values in the RTE configuration profile. Then, you customize the resolution values in the variables profile to suit your site. Using \$MDLVARS saves you from having to update dozens or even hundreds of parameters manually. For more information about using these predefined variables, see [How to: Merge predefined variables into configuration profiles](#).

The following are best-practice configurations for RTEs.

This table summarizes the features of the runtime environments in the Quick configuration scenarios.

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF01	\$MDLHA	Full	High-availability hub	No	RTE configuration template for full, standalone RTE (High Availability (HA) Hub TEMS)
QCF02	\$MDLHFV	Full	Static hub	Yes	RTE configuration template for full, standalone RTE (Static Hub TEMS and Agents with variables enabled)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF03	\$MDLRSBV	Sharing-with-base	Remote	Yes	RTE configuration template for sharing-with-base read-only libraries RTE (Remote TEMS and Agents with variables enabled)
QCF04	@MDLHF	Full	Static hub	No	RTE configuration template for full, standalone RTE (Static Hub TEMS and Agents)
QCF05	@MDLRF	Full	Remote	No	RTE configuration template for full, standalone RTE (Remote TEMS and Agents)
QCF06	@MDLRFV	Full	Remote	Yes	RTE configuration template for full, standalone RTE (Remote TEMS and Agents with variables enabled)
QCF07	@MDLRSB	Sharing-with-base	Remote	No	RTE configuration template for sharing-with-base read-only libraries RTE (Remote TEMS and Agents)
QCF08	@MDLRSS	Sharing-with-SMP/E	Remote	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Remote TEMS and Agents)
QCF09	@MDLRSSV	Sharing-with-SMP/E	Remote	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Remote TEMS and Agents with variables enabled)
QCF10	@MDLHSS	Sharing-with-SMP/E	Hub	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS and Agents)
QCF12	@MDLHSB	Sharing-with-Base	Hub	No	RTE configuration template for sharing-with-base read-only libraries RTE (Hub TEMS and Agents)
QCF13	\$MDLAFV	Full	Remote	Yes	RTE configuration template for full, stand-alone RTE (Agents only with variables enabled connecting to a z/OS TEMS in another RTE)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF14	@MDLAF	Full	Remote	No	IBM-provided RTE configuration template for full, standalone RTE (Agents only connecting to a z/OS TEMS in another RTE)
QCF15	\$MDLASBV	Sharing-with-base	Remote	Yes	RTE configuration template for sharing-with-base read-only libraries RTE (Agents only with variables enabled connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF16	@MDLASB	Sharing-with-base	Remote	No	RTE configuration template for sharing-with-base read-only libraries RTE (Agents only connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF17	@MDLASSV	Sharing-with-SMP/E	Remote	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Agents only with variables enabled connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF18	@MDLASS	Sharing-with-SMP/E	Remote	No	RTE configuration template for sharing-with-SMP/E datasets RTE (Agents only connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF19	\$MDLHSSV	Sharing-with-SMP/E	Hub	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS, enhanced 3270 user interface (TOM) and OMEGAMON for JVM (KJJ) Agent only with variables enabled)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF20	\$MDLHSS	Sharing-with-SMP/E	Hub	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS, enhanced 3270 user interface (TOM) and OMEGAMON for JVM (KJJ) Agent only)

The use of these model profiles is documented in the QCF [Implementation scenarios](#). @MDLHSS, which forms the basis for QCF Scenario 10, is suggested for creating a proof-of-concept or test RTE.

## PARMGEN generated runtime members

The PARMGEN configuration process allocates a set of libraries which contain runtime members that are tailored by the \$PARSE job and referenced at the time product started task are executed.

### xKANCMDU

Contains startup members.

### xKANPARU

Contains parameter members, environment file members, and near-term history persistent datastore control files.

### xKANSAMU

Contains sample jobs and file-tailored jobs, started tasks, VTAM nodes, security jobs, allocation and load jobs, and the like.

PARMGEN creates a started task (STC) for every product and component that is configured in a runtime environment (RTE). The STCs are included in a composite STC that can be used to start all the products and components, in the required order. The composite STC is named %RTE\_STC\_PREFIX%STRT, where %RTE\_STC\_PREFIX% is the started task prefix that is specified in the **RTE\_STC\_PREFIX** parameter. By default, all started tasks are started. Comment out the START statement for any STCs that are not in use. The started tasks must be copied from the WKANSAMU library to your GBL\_SYS1\_PROCLIB library (default SYS1.PROCLIB).

The KCIJPSYS job copies runtime members, such as started tasks and VTAM® major node members, for the products and components into system libraries. The job also copies several optional members for your use:

- %RTE\_STC\_PREFIX%APF: composite SETPROG/VARY ACTIVATE member listing load libraries that must be APF-authorized for the different products.
- %RTE\_STC\_PREFIX%STRT: composite /S startup of all customized product started tasks from the RTE's WKANSAMU library to the customized global system procedure library
- %RTE\_STC\_PREFIX%STOP: composite /P stop. - .

The job also assembles or links product modules into system libraries.

The KCIJPSYS job is submitted from the **Submit Batch Jobs to Complete PARMGEN Setup** panel. You can submit it individually or using the composite submit job KCIJPSUB. The KCIJPSYS job is not automatically submitted by KCIJPSUB, because it requires write access to system libraries. If you use the composite job, you must uncomment the KCIJPSYS job in the KCIJPSUB JCL.

## Utilities

The Parameter Generator (PARMGEN) software provides a number of utilities to assist you in performing configuration tasks, such as editing configuration members, submitting stand-alone utility jobs, and accessing configuration readme files. PARMGEN also supports an EXCLUDE FIND macro.

## Utilities panel

From the **Utilities** panel you can edit the members of the configuration libraries, access a set of readmes, and submit utility jobs.

You can access the **Utilities** panel through the Workflow interface by entering UTIL on the command line of any panel.

```
KCIPQPGU ----- UTILITIES -----
Option ==>                                         Scroll ==> PAGE

More:      +

Enter n (0-37) to perform tasks.
Enter ns* (15s* - 19s, 23s, 27s) if a task generates a report ($DLARPT DLA
report, $VALRPT validation report), or if a task generates a dataset/member
to review (DLA IDML dataset/books, DLA RTE/$GBL$USR, WSUPERC dataset).
See Utility options/shortcut commands help topic for more information.

Process a Runtime Environment (RTE) or perform cross-RTE functions:
  0. Runtime Environments (RTEs)

Display/Edit a dataset member list:
  1. WKANCM DU          TDITN.IDTST.DEMO.WKANCM DU
  2. WKANPARU         TDITN.IDTST.DEMO.WKANPARU
  3. WKANSAMU         TDITN.IDTST.DEMO.WKANSAMU
  4. WKD2PAR          TDITN.IDTST.DEMO.WKD2PAR
  5. WKD2PRF          TDITN.IDTST.DEMO.WKD2PRF
  6. WKD2SAM          TDITN.IDTST.DEMO.WKD2SAM
  7. WCONFIG           TDITN.IDTST.DEMO.WCONFIG
  8. GBL_USER_JCL     TDITN.IDTST.PARMGEN.JCL
  9. RTE_X_SECURITY_EXIT_LIB TDITN.IDTST.DEMO.RKANSAMU
 10. GBL_DSN_GLOBAL_SOURCE_LIB TDITN.IDTST.DEMO.RKANPARU

Display a README:
 11. Display $JOBINDX index list of PARMGEN batch jobs/RTE maintenance jobs
 12. Display a consolidated list of What's New component READMEs.
 13. Display a consolidated list of post-configuration READMEs.
 14. Display components installed and configured in DEMO RTE.

Submit a utility job (Autodiscovery):
      Description                                         Job/Label
**Note: Submit 15 composite job or submit 16-18 function jobs.
-----
 15. Composite PARMGEN z/OS Discovery Library Adapter (DLA) job. KCIJPDLA
      ** OI **
 16. Create the z/OS DLA IDML books on active z/OS resources. KCIJPD L1
 17. Generate PARMGEN $DLARPT report from DLA IDML books dataset. KCIJPD L2
 18. Refresh DEMO/$GBL$USR user profiles with $DLARPT data. KCIJPD L3
 19. Generate $SYSVAR autodiscovered system/user symbols report. $PARSEDV

Submit a utility job (Maintenance):
      Description                                         Job/Label
-----
 20. Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1
 21. Convert an ICAT RTE Batch member. KCIJPCNV
 22. Merge profile from a backup LPAR RTE profile. KCIJPMCF
 23. Validate PARMGEN profile parameter values. KCIJPVAL
 24. Back-up WK* work user libraries. KCIJPCPW
 25. Back-up RK* product execution user libraries. KCIJPCPR
 26. Recall migrated DEMO RTE datasets. KCIJPHRC
 27. Compare work and runtime user libraries. KCIJPSPC
 28. Empty runtime members in RK* user libraries. KCIJPMTY
 29. Copy WK*->RK* user libraries keeping EXCLUDE members. KCIJPW1R
 30. Restore back-up user libs. to current set. KCIJPB2R
 31. Resolve system symbolics in PARMGEN jobs. KCIJVS RV
 32. Collect diagnostic information for this RTE. KCIJPCOL
 33. Delete RTE: DEMO KCIJPDEL

Submit a utility job (Clone/Transport):
      Description                                         Job/Label
-----
 34. Clone customized WCONFIG members. KCIJPCCF
 35. Allocate read-only base RK* libraries. KCIJPBSA
 36. Load read-only base RK* libraries. KCIJPBSL
 37. Clone customized data from another RTE. KCIJPCLN

Press F1=Help for more information.
```

**Note:** Depending upon your screen resolution, you might have to scroll down to see all the options on the panel. Look for the MORE+ that indicates there are additional options.

## Runtime Environments (RTEs) panel

The **Runtime Environments (RTEs)** panel provides a list of the configured RTEs in the PARMGEN global library and a set of actions you can perform on selected RTEs or on all RTEs in the library.

You access the **Runtime Environments (RTEs)** panel by typing a question mark in the **RTE\_NAME** field of the Workflow menu.

```

----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>                               Scroll ==> PAGE

                               Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).
Press F1=Help for more information.

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
               (for example, TDITNT.DEV.ITM62351.SYSPLEX.PARMGEN.JCL)
               Specify the dataset name of the PARMGEN common/global
               library for the different LPAR runtime environments (RTEs).
               PARMGEN stores cross-RTE values for the RTEs created
               using the same GBL_USER_JCL PARMGEN common library.

RTE_PLIB_HILEV: TDITN.IDTST_____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:     ?DOCRTE_ (Type ? for a list of configured RTEs)
               Specify the runtime environment (&rte_name) for this LPAR.

```

Figure 72: Invoking the Runtime Environments (RTEs) panel

“Figure: The Runtime Environments (RTEs) panel ” on page 424 shows the Runtime Environments panel.

```

KCIP@RTE ----- RUNTIME ENVIRONMENTS (RTEs) ----- Row 6 to 10 of 17
Command ==>                               Scroll ==> PAGE
Locate the RTE you want to process from the list of RTEs inventoried from
the PARMGEN global library (QISUN.IDTST.PARMGEN.JCL).
See F1=Help for additional cross-RTE Actions/RTE Commands available.

Single RTE Actions: Type the action character next to the RTE name:
  "S" or "/" Switch to an RTE.
  "P" Display the products configured in an RTE.
  "D" Delete an RTE. You cannot delete the active RTE.

Multiple RTE Actions: Type the action character next to one or more RTEs:
  "L" Copy read-only (RO) elements from the SMP/E target libraries
      to the RO RK* runtime libraries (KCIJPLOD job).

Multiple RTE Commands: Type the indicated command on the command line:
  "LOADALL" Submit multi-load (KCIJPLOD) job for all listed RTEs.
  "SHOWDESC"/"HIDEDESC" Show/Hide RTE Description for all listed RTEs.

RTE Name Read-only (RO) shared libraries (SHRLIBs)      Load SHRLIBs?  VARS?
_ DEMO    N/A (TSTEST.CCAPI.DEMO.RK* FULL RTE libs)      N/A (FULL RTE)  N
_ DEMOHA  N/A (TDITN.IDTST.DEMOHA.RK* FULL RTE libs)     N/A (FULL RTE)  N
_ DEMOMVS N/A (TSTEST.CANDLET.XEGA.DEMOMVS.RK* FULL RTE N/A (FULL RTE)  N
_ PGN3MVSE TSTEST.BASE2.RK* base libs                    Y                Y
_ PLBHAHUB N/A (TSTEST.&userid.PLBHAHUB.RK* FULL RTE libs) N/A (FULL RTE)  N

```

Figure 73: The Runtime Environments (RTEs) panel

This figure shows the list of runtime environments and the actions and commands that can be performed on them.

The panel displays the name of each RTE; the libraries it shares with other RTEs, if any; whether or not the RTE loads the shared libraries; whether or not variables are enabled in the RTE. Optionally, a description of the RTEs can be displayed.

```

KCIP@RTE ----- RUNTIME ENVIRONMENTS (RTEs) ----- Row 5 to 9 of 17
Command ==>                                         Scroll ==> PAGE
Locate the RTE you want to process from the list of RTEs inventoried from
the PARMGEN global library (QISUN.IDTST.PARMGEN.JCL).
See F1=Help for additional cross-RTE Actions/RTE Commands available.

Single RTE Actions: Type the action character next to the RTE name:
"S" or "/" Switch to an RTE.
"P" Display the products configured in an RTE.
"D" Delete an RTE. You cannot delete the active RTE.

Multiple RTE Actions: Type the action character next to one or more RTEs:
"L" Copy read-only (RO) elements from the SMP/E target libraries
to the RO RK* runtime libraries (KCIJPLD job).

Multiple RTE Commands: Type the indicated command on the command line:
"LOADALL" Submit multi-load (KCIJPLD) job for all listed RTEs.
"SHOWDESC"/"HIDEDESC" Show/Hide RTE Description for all listed RTEs.

RTE Name Read-only (RO) shared libraries (SHRLIBs) Load SHRLIBs? VARS?
_ DEMO N/A (TSTEST.CCAPI.DEMO.RK* FULL RTE libs) N/A (FULL RTE) N
  Desc DEMO DESCRIPTION
_ DEMOHA N/A (TDITN.IDTST.DEMOHA.RK* FULL RTE libs) N/A (FULL RTE) N
  Desc FULL RTE w/ HIGH AVAILABILITY HUB TEMS
_ DEMOMVS N/A (TSTEST.CANDLET.XEGA.DEMOMVS.RK* FULL RTE N/A (FULL RTE) N
  Desc REMOTE ON DEMOMVS (MVSA)
_ PGN3MVSE TSTEST.BASE2.RK* base libs Y Y
  Desc PLB04 FOR CONVERSION
_ PLBHAHUB N/A (TSTEST.CCAPI.PLBHAHUB.RK* FULL RTE libs) N/A (FULL RTE) N
  Desc PLBHAHUB LPAR - FTU

```

Figure 74: Runtime Environments (RTEs) panel with descriptions displayed

From this panel, you can perform the following actions.

**Single RTE actions**

The following actions can be performed on a single selected RTE by typing the action character next to the RTE name:

**S or /**

Switch to an RTE. Use this action to select a different RTE to reconfigure using the Workflow panels. After you enter your selection, you are returned to the main panel.

**P**

Display a list of the products and components. Use this action, for example, to find an RTE you want to clone.

**D**

Delete an RTE.

**Multiple RTE actions**

You can perform the following actions on one or more selected RTEs:

**L**

Copy read-only files from the SMP/E target libraries to the user runtime libraries.

**W**

Copy files from the WK\* work libraries to the user RK\* libraries.

**Global RTE commands**

You can perform the following actions by typing the indicated command on the command line:

**LOADALL**

Copy read-only files from the SMP/E target libraries to the user runtime libraries for all listed RTEs.

**W2RALL**



```

KCIQPQGU ----- UTILITIES -----
Option ==> DLAMENU_                               Scroll ==> PAGE
                                                    More:      +

Enter n (0-37) to perform tasks.
Enter ns* (15s* - 19s, 23s, 27s) if a task generates a report ($DLARPT DLA
report, $VALRPT validation report), or if a task generates a dataset/member
to review (DLA IDML dataset/books, DLA RTE/$GBL$USR, WSUPERC dataset).
See Utility options/shortcut commands help topic for more information.

Process a Runtime Environment (RTE) or perform cross-RTE functions:
  0. Runtime Environments (RTEs)

Display/Edit a dataset member list:
  1. WKANCMDU           QISUN.IDTST.JVM.WKANCMDU
  2. WKANPARU          QISUN.IDTST.JVM.WKANPARU
  3. WKANSAMU          QISUN.IDTST.JVM.WKANSAMU
  4. WKD2PAR           QISUN.IDTST.JVM.WKD2PAR
  5. WKD2PRF           QISUN.IDTST.JVM.WKD2PRF
  6. WKD2SAM           QISUN.IDTST.JVM.WKD2SAM
  7. WCONFIG           QISUN.IDTST.JVM.WCONFIG
  8. GBL_USER_JCL      QISUN.IDTST.PARMGEN.JCL

F1=HELP   F2=SPLIT   F3=END     F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP    F10=LEFT   F11=RIGHT  F12=RETRIEVE

```

Figure 75: Run DLAMENU command in UTILITIES

The DLAMENU menu lists the various KCIJPD\* jobs to perform DLA autodiscovery tasks for the RTE.

```

KCIQPDLA ----- PARMGEN DLA MENU -----
Option ==>                               Scroll ==> PAGE
                                                    More:      +

Enter n (1-11) to perform DLA autodiscovery tasks for RTE=JVM.

Submit a DLA utility job:
-----
  1. Composite PARMGEN z/OS Discovery Library Adapter (DLA) job.  KCIJPDLA
    ** OR **
  2. Create the z/OS DLA IDML books on active z/OS resources.    KCIJPD1
  3. Generate PARMGEN $DLARPT report from DLA IDML books dataset. KCIJPD2
  4. Refresh JVM/$GBL$USR user profiles with $DLARPT data.      KCIJPD3

Display/Edit WCONFIG dataset where DLA members are generated:
  5. WCONFIG repository      QISUN.IDTST.JVM.WCONFIG

Display/Edit IDML books created by KCIJPDLA job or KCIJPD1 job:
  6. DLA IDML XML books      QISUN.IDTST.JVM.IZD.IDML

Display/Edit $DLA* reports created by KCIJPDLA job or KCIJPD2 job:
Note: $DLADLTA delta report only gets generated if $DLARPT report exists.
  7. $DLARPT report          QISUN.IDTST.JVM.WCONFIG($DLARPT)
  8. $DLADLTA report         QISUN.IDTST.JVM.WCONFIG($DLADLTA)

Display/Edit user profiles refreshed by KCIJPDLA job or KCIJPD3 job:
  9. LPAR RTE user profile   QISUN.IDTST.JVM.WCONFIG(JVM)
 10. $GBL$USR user profile   QISUN.IDTST.JVM.WCONFIG($GBL$USR)

Display/Edit $DLAMAP report created by KCIJPDLA job or KCIJPD3 job if
$DLARPT report and JVM/$GBL$USR user profiles exist:
 11. $DLAMAP report         QISUN.IDTST.JVM.WCONFIG($DLAMAP)

F1=HELP   F2=SPLIT   F3=END     F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP    F10=LEFT   F11=RIGHT  F12=RETRIEVE

```

For more information about the available commands, see [“PARMGEN z/OS DLA utility jobs and commands” on page 442](#).

## Configuration workflow

The process of creating a new runtime environment (RTE) is streamlined. You perform only four steps to configure a new RTE whether you are creating from scratch, using a product-provided model, or cloning an existing PARMGEN RTE. The configuration software automatically runs any required update, merge, clone, and conversion jobs, as appropriate.

There are four ways of creating a new runtime environment in PARMGEN:

- From scratch.  
Creating an RTE from scratch means that you provide all the required information to define and configure the RTE. There are no presets, other than parameter defaults.
- By modifying a product-provided model RTE  
Using one of the provided model RTEs means that you do not have to do as much configuration. There are many preset features, depending on which template you select, such as support of system and user-defined variables.
- By cloning (and possibly modifying) an existing PARMGEN RTE  
Cloning an existing PARMGEN RTE allows you to create the RTE using values you have already customized for your site.

Creating a new runtime environment requires four steps:

1. Setting up the PARMGEN work environment.
2. Editing the configuration profiles.
3. Creating the runtime members and jobs.
4. Submitting the jobs to set up the configured runtime environment.

However, you will need to complete additional configuration steps outside the configuration software to complete the configuration.

The steps required to apply maintenance or to upgrade an environment depends upon whether or not you want to exploit or customize any new features.

## Accessing the Workflow menu

On the **Installation and Configuration Tools Welcome** panel, when you select option 3 (Configuration Workflow), you are presented with a panel on which you identify or define the runtime environment (RTE) that you want to configure. After you enter the information, the **Workflow - Primary Option Menu** is displayed.

### About this task

Take the following steps to access the Workflow interface:

#### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM

```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT      /  STORCLAS /
                                VOLSER   /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                                HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Specify the requested values to define or identify the runtime environment (RTE) that you want to create or modify.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. After you supply the appropriate values, press Enter to proceed to the **Workflow Primary Options Menu**. If you entered the name of a new RTE on the panel, the following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```

KCIPQPGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

      Description                               Job/Label  Status    Date
      -----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.   SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.          POSTCFG
R   Create next RTE - Reset fields.           New RTE

```

## Setting up the work environment

The **Set up the PARMGEN Work Environment** option on the Workflow primary options menu presents a series of panels in which you provide or review information about the specified runtime environment (RTE), such as the type of RTE, the properties of the RTE, the products configured in it, and certain values common to all the products. The configuration software uses this information to set up the work environment by updating the interim libraries, creating or updating the configuration profiles, and running any additional required jobs (clone, convert, merge).

### Before you begin

If you are setting up a new RTE, review [Planning a first deployment](#). Make sure that you understand what an RTE is, that you know what type of RTE you want to configure, what products and components you want to configure in the RTE, and what naming conventions you will follow. If possible, ensure that all prerequisites (such as authorizing new started tasks) are met.

Access the Workflow - Primary Option Menu (see [“Accessing the Workflow menu” on page 428](#)).

### About this task

If you are creating a new RTE from scratch, you use the panels to specify a number of global attributes and properties of the RTE. If you are configuring a new RTE that is based on an existing RTE or on an IBM-supplied model profile, the configuration software extracts the required information from the model. You modify the values that are presented to customize the new RTE. Similarly, if you are reconfiguring an existing RTE (for example, to apply maintenance or upgrade the RTE), you use these panels to modify an existing RTE.

The following procedure documents the series of panels that collect the information that is required to set up the environment.

### Procedure

1. From the **Workflow - Primary Option Menu**, select **Set up PARMGEN work environment for an RTE**. The **Set up PARMGEN Work Environment for an RTE (1 of 3)** panel (KCIPQPG1) is displayed:

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode

                                More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==>
(Type ? for last referenced JOBGEN library discovered, if any.)

```

2. Complete the fields as appropriate, then press Enter to continue.

### RTE model profile

The information you provide in the RTE model profile field determines what jobs the configuration software will run after the work environment is set up. The following options are available:

- If you are creating a brand new RTE, leave this field blank. In this case, the configuration software sets up the RTE using only values that you provide.
- If you want to create an RTE based on an IBM-provided model RTE, enter a question mark ("?) and select the model that matches your needs.
- If you want to create (clone) an RTE based on an already configured PARMGEN RTE, provide the WCONFIG profile library and member name for that RTE (for example: *hilev.rte.WCONFIG(rte\_name)*, where *rte\_name* is the member you want to clone from).

If a value is supplied, PARMGEN queries the member to determine what products or components are already configured within the RTE to tailor the configuration parameters set. If the specified data set or member does not exist, you are prompted to correct the name.

### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*.TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed:

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                                Quick Configuration Mode
GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:     SYSA

Enter parameter values appropriate for your environment:
                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____
GBL_SYSDA_UNIT:   SYSDA___
                   Work datasets UNIT name
GBL_REGION:      0M_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- The values on this panel are read from the profile library and runtime member name you specified on the preceding panel. Review the values on the panel and override them as necessary, then press Enter to proceed to the next panel.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

The **Set up PARMGEN Work Environment for an RTE (3 of 3)** panel (KCIPQPG3) is displayed. The values that are already specified on this panel are determined by the information you provided on previous panels, especially the RTE model profile. If you did not specify a model RTE profile, these values are the IBM® defaults. If you specified a model profile, the values are taken from that profile. The values on this panel are inherited by the corresponding parameters in the configuration profile for the new RTE.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      DEMO description_____
More:                +

RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:           TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:     TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
(&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
(*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:   _____
GBL_DSN_ACF2_MACLIB1:  _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:         HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:      -- (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)
Note: Type BACK to go back one panel. Type UTIL to access utility menu.

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is more content on the panel.)

4. Customize the following parameters as appropriate.

#### **RTE\_DESCRIPTION**

A brief description that characterizes the RTE. This description is useful when you are choosing an RTE to clone and you want to select for certain features.

#### **SMS parameters**

If you are using a SMS-managed high-level qualifier index, volume, unit, storage class, and management class parameters for the global **RTE\_\*** parameters and the **Kpp\_\*** product-specific parameters are not required. If you are using non-SMS-managed **RTE\_HILEV** and **RTE\_VSAM\_HILEV** high-level qualifiers, the **RTE\_SMS\_VOLUME**, **RTE\_SMS\_VSAM\_VOLUME**, and **RTE\_SMS\_UNIT** values are required, as well as the product-specific **Kpp\_\*** VOLUME, UNIT, STORCLAS, and MGMTCLAS equivalent parameters. (Certain products allow for product-specific **Kpp\_\*** VOLUME, UNIT, STORCLAS, and MGMTCLAS parameters for their specific data set needs.) Review all **\*\_VOLUME** and other SMS and non-SMS parameters in the `WCONFIG(rte_name)` RTE configuration profile.

#### **RTE\_SMS\_PDSE\_FLAG**

Specifies whether (Y or N) partitioned data sets are to be allocated as PDSE. The default is Y.

#### **RTE\_SMS\_UNIT**

Specifies the non-VSAM disk UNIT type to be used for data set allocation.

#### **RTE\_SMS\_VOLUME**

Specifies the non-VSAM disk VOLSER to be used for data set allocation.

#### **RTE\_SMS\_MGMTCLAS**

Specifies the non-VSAM disk MGMTCLAS to be used for data set allocation.

#### **RTE\_SMS\_STORCLAS**

Specifies the non-VSAM disk STORCLAS to be used for data set allocation.

#### **RTE\_SMS\_VSAM\_VOLUME**

Specifies the VSAM disk VOLSER to be used for data set allocation.

#### **RTE\_SMS\_VSAM\_MGMTCLAS**

Specify the VSAM disk VOLSER to be used for data set allocation. Specify the VSAM disk MGMTCLAS to be used for data set allocation.

#### **RTE\_SMS\_VSAM\_STORCLAS**

Specifies the VSAM disk STORCLAS to be used for data set allocation.

### **RTE parameters**

#### **RTE\_TYPE**

Specifies the type of RTE being created. The following types are valid:

##### **Full**

Allocates both private and base libraries. Use this type if you have only one RTE or if you have an RTE for an unique set of products.

##### **Sharing**

Allocates private libraries only. This type can either share base libraries with a base or full RTE, or use target libraries that were installed by SMP/E for its base libraries. Define one sharing RTE for each z/OS® image.

**Note:** In PARMGEN, base libraries are created as part of creating the first RTE that shares the base. RTEs created after this one can point to the existing base using the **RTE\_SHARE** parameter.

#### **RTE\_HILEV**

Specifies the non-VSAM high-level qualifier that you want to use for the allocation of the non-VSAM production runtime (RK\*) libraries. By default, the initial value for a brand new RTE is the **RTE\_PLIB\_HILEV** value that you specified on the Parameter Generator (PARMGEN) Workflow - Welcome panel.

#### **RTE\_VSAM\_HILEV**

Specifies the VSAM high-level qualifier that you want to use for the allocation of the VSAM production runtime (RK\*) libraries. By default, the initial value for a brand new RTE is the **RTE\_PLIB\_HILEV** value you specified on the **Parameter Generator (PARMGEN) Workflow - Welcome** panel.

### **Sharing RTE parameters**

#### **RTE\_X\_HILEV\_SHARING**

Specifies the value of the non-VSAM high level qualifier of the RTE being shared to.

#### **RTE\_SHARE**

Specifies the name of the Base or Full RTE from which the sharing RTE obtains its base library information. Required for a sharing RTE.

## RTE\_LOAD\_SHARED\_LIBS

Determines whether to include the shared libraries in the Load job of a sharing-with-base or sharing-with-full RTE. Accept the default value (Y) to ensure that all maintenance is loaded properly into the RTE.

**Tip:** If you have multiple RTEs that share read-only data sets, configure only one of the environments to load the common shared base libraries (**RTE\_LOAD\_SHARED\_LIBS=Y**). Set all the other sharing environments set to N. This configuration prevents the same libraries from being loaded every time that you run the KCIJPLOD load job for each sharing environment.

- To create a sharing-with-base environment, specify a name for the shared (base) RTE using **RTE\_SHARE** and the high-level qualifier for the shared RTE using **RTE\_X\_HILEV\_SHARING**.
- To create a sharing RTE that shares target libraries that were installed by SMP/E, provide the value SMP for **RTE\_SHARE**.
- To create a sharing-with-full environment, provide the name and high-level qualifier of the full RTE. If the RTE you specify has not yet been created, the configuration software creates the libraries for the full environment you have yet to create. If the RTE you are creating will have variables enabled, you can use symbolics to specify these values so that you will not have to replace started tasks across RTEs.

## Variables (symbolics) parameters

### RTE\_SYSV\_SYSVAR\_FLAG

Indicates whether to enable use of variables. Using variables allows systems to share PARMGEN definitions while using unique values in those definitions.

If you are going to use variables, set any occurrence of the system name here or in the configuration profile to &SYSNAME.. (For example, set **RTE\_TEMS\_NAME\_NODEID** to PLB3&SYSNAME. : CMS.)

## Security parameters

### RTE\_SECURITY\_USER\_LOGON

Security system to be used for the RTE. If you specify a security system, verify that it is installed and configured correctly for your site. Specify one of the following values: RACF®, ACF2, TSS, NAM, SAF, or None. If you specify ACF2, you must also provide the name of the ACF2 macro library as the value of the **GBL\_DSN\_ACF2\_MACLIB** parameter. The System Authorization Facility (SAF) provides a generic API to interface to z/OS® security software.

Specifying a security system here indicates which system is used for security validation of users who sign on to the Tivoli® Enterprise Portal, but it does not enable validation. Security validation of users is enabled by the **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** parameter.

### RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG

Determines if password and password phrase (passphrase) values are folded to uppercase. By default, logon password and passphrase values are folded to uppercase (default value Y). If you want to implement mixed-case password and passphrase values, set this field to N.

### RTE\_SECURITY\_CLASS

Specifies a common System Authorization Facility (SAF) security class name for OMEGAMON® Enhanced 3270 user interface security controls. The individual products have SAF security settings that are specific to them (for example, to secure product-specific Take Action requests). For more information, see the product-specific documentation.

### RTE\_X\_SECURITY\_EXIT\_LIB

Specifies the name of the global library that houses all the OMEGAMON® and Tivoli® Management Services related product security exits (such as KOBSPDPT OMEGAMON® KppSUPDI exits, TMS:Engine security exits, external security exits). This value overrides the SYSIN DD statement where the user exits may have been customized (if other than the default RKANSAM location). The KppJPSC3 input members to the composite KCIJPSEC security job point the SYSIN DD statement to RKANSAMU by default. If you must make further changes to the sample exit, copy

the user exit to the `xKANSAMU` library, and make your changes accordingly. Then, modify the `RTE_X_SECURITY_EXIT_LIB` parameter and change the value to `RKANSAMU` instead.

#### **GBL\_DSN\_ACF2\_MACLIBn**

Specifies the name of an ACF2 macro library. Parameter `GBL_DSN_ACF2_MACLIB` is required if the value specified for the `RTE_SECURITY_USER_LOGON` environment variable is `ACF2`. To specify an additional ACF2 macro library, use parameter `GBL_DSN_ACF2_MACLIB1`.

### **Monitoring server settings**

#### **RTE\_TEMS\_CONFIGURED\_FLAG**

Specifies whether a Tivoli® Enterprise Monitoring Server is to be configured in this RTE. Required for a full or sharing RTE that contains a monitoring server. If you are creating an RTE for stand-alone monitoring agents without a monitoring server, specify `N`. Otherwise, specify `Y` (the default) to allocate libraries for the monitoring server.

#### **RTE\_TEMS\_NAME\_NODEID**

Specifies the unique name that identifies the monitoring server for internal processing. Required for a full or sharing RTE that contains a monitoring server.

#### **KDS\_TEMS\_TYPE**

Specifies whether to configure a hub monitoring server or a remote monitoring server.

#### **KDS\_TEMS\_HA\_TYPE**

Specify whether to configure the Tivoli® Enterprise Monitoring Server as a high-availability hub. This configuration requires a sysplex environment with dynamic virtual IP addressing (DVIPA) and shared DASD. A high-availability hub is configured in its own RTE, without monitoring agents, and can be configured on the same LPAR with a remote monitoring server.

### **Communications and started task settings**

#### **RTE\_TCP\_PORT\_NUM**

Number of the well-known port to be used for IP communications. For detailed information about assigning port numbers, see [Port number assignments](#) in the Planning topics.

#### **RTE\_VTAM\_APPLID\_PREFIX**

This parameter specifies the prefix to be used when building the VTAM applids for products in this RTE. If variables are enabled in this RTE, you can use a symbolic for this value (for example, `k&SYSCONE`). The resolved prefix can have a maximum of 4 characters. Be sure to place a period (.) after the last symbolic in the specification. If none of the products or components you intend to configure require SNA communications, delete the default value and leave this parameter value blank.

#### **RTE\_STC\_PREFIX**

For full and sharing RTEs, specify a prefix to be used when generating started task procedures for products that are configured in the RTE. The default value of `IBM` is provided, but specifying your own prefix prevents confusion with jobs generated by other RTEs on the same system.

- If required by your site conventions, use `RTE_STC_PREFIX` to specify a prefix of up to 4 characters to replace the default `IBM`® prefix for the names of started tasks that are created by the configuration software. If you choose to use symbolics, you can use up to 18 characters that resolve to 4 characters. For example, `&SYSCONE` . .
- If required by your site conventions, use `RTE_VTAM_APPLID_PREFIX` to specify a prefix of up to 4 characters (or a symbolic of up to 18 characters that resolve to 4) for all VTAM® major nodes and applids. For example, `TS&SYSCONE` . .

5. After you specify all required parameters, press `Enter`. The **Include Products in this PARMGEN RTE** panel (`KCIP@PGI`) is displayed. This panel lists the products that are installed in the CSI target zone and are therefore available for configuration. By default, all of the products in the target zone are selected. If you specified an existing PARMGEN WCONFIG profile as the model, only the products that are configured within that member are selected. If the list exceeds screen size, you can scroll down using `F8`.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE
```

```
Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected
```

```
When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)
```

```
 Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

6. To exclude any of the products from the runtime environment that you are configuring, delete the / before the product code. To add products, place a slash (/) before the product name.
7. After you review the product set and customize it as required, change confirm ==> N to Y and press Enter.  
The %GBL\_USER\_JCL%(KCIJPCFG) job is generated, tailored with the values you supplied.
8. Review this job and submit it.  
After you return to the main Workflow panel, you will note a > before option 1 to indicate that this is the last step you performed. The status and date fields for that option are updated.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the work libraries and merges the values from the existing RTE. You see a status of SUBMITTED until both jobs complete. Do not proceed to the next step until you see a successful return code.

## Result

The configuration software allocates the work libraries, creates the configuration profiles with values taken from the model RTE or specified on the KCIP@PG3 panel, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products that are selected for configuration.

## What to do next

Now you can review or customize the configuration profiles for the RTE.

## Customizing the configuration profiles

Customizing the configuration profiles is a critical part of the configuration process. The profiles contain the values that define the runtime environment, communication protocols and addresses, the framework features that are enabled, product-specific values, and so forth. The configuration profiles are tailored with the information you specify when you set up the RTE work environment. Default values are provided for all other required parameters and some optional ones. The amount of editing required to customize the configuration profiles depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults.

## About this task

If you do not want to customize these parameters, and you do not want to enable optional features, you can complete the configuration by accepting these defaults. Alternatively, you can edit the profiles to override defaults and provide custom values for optional parameters that have no defaults.

- Review and customization of the RTE configuration profile is required to override defaults with any required site-specific values, such as port numbers and to enable optional features such as automatic APF authorization, event forwarding, or support for self-describing agents.
- Review of the \$GBL\$USR profiles is required under either of the following conditions:
  - If the RTE is being upgraded and there may be new GBL\_\* parameters introduced in the new version of the product.
  - To customize product-specific GBL\_\* common or global parameters that may apply to more than one product or apply to several components within a product family.
- Customization of the variables configuration file is required if the runtime environment is enabled for system variables (RTE\_SYSV\_SYSVAR\_FLAG=Y) and user-defined symbols are being used. Any system variables whose resolution values cannot be determined from the IPL PARMLIB must also be defined.
- [“Configuration profiles” on page 415](#) describes the three configuration profiles.
- [“Customizing the runtime environment configuration profile” on page 449](#) discusses the values and features that users typically customize in the RTE configuration profile.
- [“Customizing the global configuration profile” on page 468](#) discusses the values typically customized in the global profile.
- [“Customizing the variables profile” on page 469](#) discusses the variables typically customized in the variables profile.

**Usage note:** Include parameter values in quotation marks (") if they include mixed casing, embedded blanks, or special characters, or if they are followed by a comment.

For help with the parameter values, consult the following resources:

- Comments in the profiles
- Online help for parameters (F1 )
- [“Common parameters” on page 1257](#)
- The *Parameter Reference* for each product

## Procedure

1. To customize the configuration profiles, select option 2 from the Workflow - Primary Option Menu.

```

----- PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==> 2                               Scroll ==> PAGE

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TSTEST.&userid
RTE_NAME:     DEMO

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary,
      until the status of each step is RC=0. Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

      Description                               Job/Label  Status      Date
      -----
1> Set up PARMGEN work environment for an RTE.  KCIJPCFG RC= 00000 2014/03/08
2. Customize PARMGEN configuration profiles.    DEMO
3. Create the RTE members and jobs.             $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.            POSTCFG
R  Reset RTE, Status and Date fields. (Optional) New RTE

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The Customize PARMGEN Configuration Profile Members panel is displayed.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

    *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
    *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
    *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
        global library (TDITN.IDTST.PARMGEN.JCL).
        Add/Modify system/user-defined symbols and their
        resolution values, for override variables used as parameter
        values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
    4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

    5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
    6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
    7. $SYSIN $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. To customize the profiles, select each configuration profile as required.

## What to do next

If you need to include further customize the configuration using the override embed files, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the Customize PARMGEN Configuration Profile Members panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [“Customizing the override embed members” on page 471](#).

## Preparing the configuration profiles by running the KCIJPDLn jobs

By running the KCIJPDLn jobs in PARMGEN, the function of IBM® Discovery Library Adapter for z/OS® (DLA) is used to automatically discover the properties of online subsystems and other z/OS resources. These details are then included within the PARMGEN runtime environment (RTE) configuration user profiles, which reduces the time and effort in creating accurate configuration files.

## Before you begin

Important PARMGEN z/OS DLA system requirements:

- The KCIJPDLA composite job must run authorized. Dynamic SETPROG APF statement is included in this job. If the z/OS DLA SMP/E target load library (*GBL\_TARGET\_IZDHLQ.SIZDLOAD*) is in a NONSMS-managed volume, the dynamic SETPROG APF statement must specify the VOL() volume parameter. For example:

```
// SETPROG APF,ADD,
// DSN=IBM.TARGET.SIZDLOAD,VOL(VOL001)
```

If you supplied a GBL\_TARGET\_VOLUME value during KCIJPCFG "Set up/Refresh PARMGEN work environment" processing (KCIP@PG2 panel), then the KCIJPDLA or the KCIJPD1 job's SETPROG statement will include the tailored VOL() parameter. If this is not the volume that the SIZDLOAD data set is on, customize the VOL() parameter accordingly. Otherwise, the DLADISC step will encounter the following error message:

```
IZD0021E APF Discovery requested but not running APF Authorized
```

**Note:** It is ideal to run the DLADISC discovery function (KCIJPD1 job function of the KCIJPDLA composite job) when the z/OS resources you plan to monitor are active.

- If you are staging the z/OS DLA IDML data sets for other LPARs, you can use the `/*JOBPARM=` parameter.

```
JOBPARM SYSAFF=&SYSNAME.
JOBPARM SYSAFF=*
```

If you use the **SYSAFF** parameter, the LPAR must belong in the same JES Multi-Access Spool (MAS) Complex. If it is not in the same MAS, an alternative is to route the job by using the `/*ROUTE XEQ` parameter.

```
ROUTE XEQ &SYSIPHOSTNAME
```

- The user ID that runs the KCIJPDLA or KCIJPD1 job must have the following RACF authorities:
  - READ access for all the data sets in the system PARMLIB concatenation that are used during IPL.
  - READ access to profiles in the MQCMDS class (if active) to allow the z/OS DLA to run MQ DISPLAY commands via the MQ command interface.
  - If RACF is used to protect Db2 resources, then authority is required to run Db2 DISPLAY commands and to access (READ) SYSIBM resources by using dynamic SQL. In addition, for the Db2 version autodiscovery, the z/OS DLA extracts the Db2 version via the Instrumentation Facility Interface (IFI). The ID that runs the KCIJPDLA or KCIJPD1 job must have the appropriate authorization to issue the Db2 commands. Otherwise, the PARMGEN DLA jobs will not be able to set values to the KD2\_DBnn\_DB2\_VER LPAR RTE profile parameter in the WCONFIG(RTE\_NAMES) LPAR RTE profile.
  - READ access to WebSphere configuration files. An OMVS segment with authority to issue the netstat, host, and home commands.

IBM® Discovery Library Adapter for z/OS® (DLA) is packaged in several product suites. Refer to the program directories of the suites for more information.

During SMP/E installation of DLA, the following SMP/E target data sets are allocated and processed:

- `gbl_target_hilev.SIZDEXEC`
- `gbl_target_hilev.SIZDINST`
- `gbl_target_hilev.SIZDLOAD`
- `gbl_target_hilev.SIZDMAPS` (applicable for FMID HIZD310)
- `gbl_target_hilev.SIZDMESG`
- `gbl_target_hilev.SIZDSAMP`

Ensure that you have the latest product maintenance for DLA.

**Note:** If you have a separate SMP/E installation of the DLA, you can still use the PARMGEN z/OS DLA integration jobs (KCIJPDLA or KCIJPD1). If you have a separate SMP/E environment where the z/OS DLA target data sets exist, modify the KCIJPD $n$  jobs to point to the appropriate `IZDHLQ=DLA_FMID` SMP/E target high-level qualifier. Review the KCIJPD $n$  jobs for more information.

## About this task

The PARMGEN z/OS DLA autodiscovery job (KCIJPDLA) discovers active z/OS resources and their connections and relationships. The z/OS DLA discovers the following resources:

- TCP/IP information
- z/OS information such as active PARMLIB members, IPL information, authorized programs
- System z hardware information such as serial numbers, LPARs, and z/VM guest information
- CICS information such as transactions, programs, and files
- Db2 for z/OS information such as databases and table spaces
- IMS information such as transactions, programs, and databases
- WebSphere information such as cell, node, and configuration files
- IBM MQ information such as queue managers, queues, channels, and ports

- Address space information such as type, data set allocations, program name, and TCP/UDP ports
- DASD volume information

For a list of the parameters that can be auto-discovered by the KCIJPDLA job, see [The parameters that can be auto-discovered by the KCIJPDLA job](#).

## Procedure

Use one of the following ways to run the KCIJPDLn jobs:

- Run the jobs by using DLA commands in the **CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS** pane.
  - a. Select **Customize PARMGEN Configuration Profiles** from the Workflow primary option menu.
  - b. In the Command line, type DLAJOB and press **Enter** to review the KCIJPDLA autodiscovery job.
  - c. Make necessary changes and submit the job.
- Run the KCIJPDLn job directly in the **UTILITIES** pane.
  - a. In the Command line, type U or UTIL to enter the utility menu.
  - b. Type 15 and press **Enter** to review the composite KCIJPDLA, or type 16, 17, or 18 and press **Enter** to review each function job.  
You can also type corresponding DLA commands in the Command line to review the jobs. For more information about the DLA commands, see [PARMGEN z/OS DLA utility jobs and commands](#).
  - c. Make necessary changes and submit the job.

## Result

Configuration profiles are filled with values that are discovered from your environment.

## What to do next

Continue the configuration by modifying the parameters in configuration profiles.

## PARMGEN z/OS DLA utility jobs and commands

The PARMGEN z/OS DLA integration provides not only the KCIJPDLA composite job, but also some function jobs and commands that you can run based on your requirements.

**DLA jobs in the UTILITIES menu**In the UTILITIES menu, you have additional utility options for the KCIJPDLn jobs. Enter the option numbers in UTILITIES menu to bring up the jobs.

Table 54: DLA jobs in Utilities menu

Option number in the UTILITIES menu	DLA job description
15	<p>The composite KCIJPDLA job is presented for submission. You can also run the DLAJOB command on the Utilities menu command line to bring up the KCIJPDLA job in edit mode. Review the job for more information. KCIJPDLA job performs the functions of the standalone KCIJPD1, KCIJPD2 and KCIJPD3 jobs. Other available sub-options under option 15 are as follows:</p> <p><b>15s1</b></p> <p>Similar to the DLAIDML command to view the KCIJPDLA output #1:  <i>RTE_PLIB_HILEV.RTE_NAME.IZD.IDML z/OS DLA IDML XML books dataset.</i></p> <p><b>15s2</b></p> <p>Similar to the DLARPT command to edit the KCIJPDLA output #2:  <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$DLARPT) PARMGEN DLA report.</i></p> <p><b>15s3r</b></p> <p>Similar to the DLARTE command to edit the KCIJPDLA output #3:  <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(DEMO) PARMGEN LPAR RTE user profile.</i></p> <p><b>15s3g</b></p> <p>Similar to the DLAGBL command to edit the KCIJPDLA output #4:  <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$GBL\$USR) PARMGEN global user profile.</i></p>
16	<p>The KCIJPD1 job is presented for submission. You can also run the DLAJOB1 command on the Utilities menu command line to bring up the KCIJPD1 job in edit mode. Review the job for more information.</p> <p>Other available sub-option under option 16 is as follows:</p> <p><b>16s</b></p> <p>Similar to the DLAIDML command to view the KCIJPD1 output  <i>RTE_PLIB_HILEV.RTE_NAME.IZD.IDML z/OS DLA IDML XML books dataset.</i></p>
17	<p>The KCIJPD2 job is presented for submission. You can also run the DLAJOB2 command on the Utilities menu command line to bring up the KCIJPD2 job in edit mode. Review the job for more information.</p> <p>Other available sub-option under option 17 is as follows:</p> <p><b>17s</b></p> <p>Similar to the DLARPT command to edit the KCIJPD2 output  <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$DLARPT) PARMGEN DLA report.</i></p>

Option number in the UTILITIES menu	DLA job description
18	<p>The KCIJPD3 job is presented for submission. You can also run the DLAJOB3 command on the Utilities menu command line to bring up the KCIJPD3 job in edit mode. Review the job for more information.</p> <div style="border: 1px solid blue; padding: 5px; margin: 10px 0;"> <p><b>Tip:</b> When reviewing the resulting WCONFIG DEMO.... LPAR RTE and \$GBL\$USR global user profiles, run EXCLUDE FIND (XF Macro if set-up) on * from \$DLARPT references to find all the parameter values extracted from the \$DLARPT DLA report. For the updated WCONFIG override imbeds such as KMQ\$CUSR or KQI\$XML, look for the Discovered headers to find all the auto-discovered lines added to the imbeds for applicable active z/OS resources.</p> </div> <p>Other available sub-options under option 18 are as follows:</p> <p><b>18sr</b></p> <p style="padding-left: 20px;">Similar to the DLARTE command to edit the KCIJPD3 output #1: RTE_PLIB_HILEV.RTE_NAME.WCONFIG(DEMO) PARMGEN LPAR RTE user profile.</p> <p><b>18sg</b></p> <p style="padding-left: 20px;">Similar to the DLAGBL command to edit the KCIJPD3 output #2: RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$GBL\$USR) PARMGEN global user profile.</p>

#### DLA commands

Instead of typing the options in the UTILITIES menu, you can run DLA commands to bring up the jobs.

<i>Table 55: DLA jobs in Utilities menu</i>	
DLA commands	Command description
DLAJOB	The RTE_PLIB_HILEV.RTE_NAME.WCONFIG(KCIJPDLA) "Composite PARMGEN z/OS Discovery Library Adapter (DLA) job." is presented for review and submission.
DLAJOB1	The RTE_PLIB_HILEV.RTE_NAME.WCONFIG(KCIJPD1) "Create the z/OS DLA IDML books on active z/OS resources." is presented for review and submission.
DLAJOB2	The RTE_PLIB_HILEV.RTE_NAME.WCONFIG(KCIJPD2) "Generate PARMGEN \$DLARPT report from DLA IDML books dataset." is presented for review and submission.
DLAJOB3	The RTE_PLIB_HILEV.RTE_NAME.WCONFIG(KCIJPD3) "Refresh DEMO/\$GBL\$USR user profiles with \$DLARPT data." is presented for review and submission.
DLAIDML	View the RTE_PLIB_HILEV.RTE_NAME.IZD.IDML dataset that contains the IDML DLA XML books. This dataset is created by submitting the KCIJPDLA composite job or the KCIJPD1 "Create the z/OS DLA IDML books on active z/OS resources." job. The DLAIDML command displays the IDML books dataset in view mode only.
DLARPT	Review the RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$DLARPT) DLA report. This report is created by submitting the KCIJPDLA composite job or the KCIJPD2 "Generate PARMGEN \$DLARPT report from DLA IDML books dataset." job. The DLARPT command displays the \$DLARPT in edit mode if you want to customize the report further, prior to submitting the next job (KCIJPD3), which uses the \$DLARPT DLA report data to refresh the PARMGEN user profiles.
DLAMAP	Review the RTE_PLIB_HILEV.RTE_NAME.WCONFIG (\$DLAMAP) parameter DLA map report. This report is created by submitting the KCIJPDLA composite job, or the KCIJPD3 "Refresh rte/\$GLB&USR" user profiles with \$DLARPT data" job. DLAMAP command displays the \$DLAMAP report that maps what \$DLARPT parameters equate to the equivalent PARMGEN rte and \$GLB&USR user profile parameters.

DLA commands	Command description
DLADLTA	Review the <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$DLADLTA)</i> DLA delta report. This report is created by submitting the KCIJPDLA composite job, or the KCIJPD2 "Generate PARMGEN \$DLARPT report from DLA IDML books dataset" job if both \$DLARPT and \$DLAMAP reports already exist in the RTE's WCONFIG dataset. DLADLTA command displays the \$DLADLTA delta report that compares the previous \$DLARPT report with the latest \$DLARPT report run. The delta report highlights the changes in the RTE user profile and the \$GBL\$USR global user profile.
DLARTE	Review the <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(DEMO)</i> LPAR RTE user profile. The LPAR RTE user profile is refreshed by the KCIJPDLA composite job or the KCIJPD3 "Refresh DEMO / \$GBL\$USR user profiles with \$DLARPT data." job. The DLARTE command displays the DEMO.... LPAR RTE user profile in edit mode if you want to customize the member further.
DLAGBL	Review the <i>RTE_PLIB_HILEV.RTE_NAME.WCONFIG(\$GBL\$USR)</i> global user profile. The \$GBL\$USR user profile is refreshed by the KCIJPDLA composite job or the KCIJPD3 "Refresh DEMO / \$GBL\$USR user profiles with \$DLARPT data." job. The DLAGBL command displays the \$GBL\$USR global user profile in edit mode if you want to customize the member further.

### PARMGEN DLA menu

You can view DLA reports and run DLA jobs in the DLA menu, which makes it easy to access the PARMGEN DLA autodiscovery tasks.

You can access the PARMGEN DLA Menu (KCIQDLA panel) by running the DLAMENU command from the UTILITIES (KCIQPGU panel).

```

KCIQPGU ----- UTILITIES -----
Option ==> DLAMENU_                               Scroll ==> PAGE
                                                    More:      +

Enter n (0-37) to perform tasks.
Enter ns* (15s* - 19s, 23s, 27s) if a task generates a report ($DLARPT DLA
report, $VALRPT validation report), or if a task generates a dataset/member
to review (DLA IDML dataset/books, DLA RTE/$GBL$USR, WSUPERC dataset).
See Utility options/shortcut commands help topic for more information.

Process a Runtime Environment (RTE) or perform cross-RTE functions:
 0. Runtime Environments (RTEs)

Display/Edit a dataset member list:
 1. WKANCMU           QISUN.IDTST.JVM.WKANCMU
 2. WKANPARU         QISUN.IDTST.JVM.WKANPARU
 3. WKANSAMU         QISUN.IDTST.JVM.WKANSAMU
 4. WKD2PAR          QISUN.IDTST.JVM.WKD2PAR
 5. WKD2PRF          QISUN.IDTST.JVM.WKD2PRF
 6. WKD2SAM          QISUN.IDTST.JVM.WKD2SAM
 7. WCONFIG           QISUN.IDTST.JVM.WCONFIG
 8. GBL_USER_JCL     QISUN.IDTST.PARMGEN.JCL

F1=HELP   F2=SPLIT   F3=END     F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP   F10=LEFT   F11=RIGHT  F12=RETRIEVE

```

Figure 76: Run DLAMENU command in UTILITIES

The DLAMENU menu lists the various KCIJPD\* jobs to perform DLA autodiscovery tasks for the RTE.

```

KCIJPDLA ----- PARMGEN DLA MENU -----
Option ==>                                     Scroll ==> PAGE

More:      +

Enter n (1-11) to perform DLA autodiscovery tasks for RTE=JVM.

Submit a DLA utility job:

      Description                                     Job/Label
-----
 1. Composite PARMGEN z/OS Discovery Library Adapter (DLA) job. KCIJPDLA
    ** OR **
 2. Create the z/OS DLA IDML books on active z/OS resources.   KCIJPD1
 3. Generate PARMGEN $DLARPT report from DLA IDML books dataset. KCIJPD2
 4. Refresh JVM/$GBL$USR user profiles with $DLARPT data.     KCIJPD3

Display/Edit WCONFIG dataset where DLA members are generated:
 5. WCONFIG repository      QISUN.IDTST.JVM.WCONFIG

Display/Edit IDML books created by KCIJPDLA job or KCIJPD1 job:
 6. DLA IDML XML books      QISUN.IDTST.JVM.IZD.IDML

Display/Edit $DLA* reports created by KCIJPDLA job or KCIJPD2 job:
Note: $DLADLTA delta report only gets generated if $DLARPT report exists.
 7. $DLARPT report          QISUN.IDTST.JVM.WCONFIG($DLARPT)
 8. $DLADLTA report          QISUN.IDTST.JVM.WCONFIG($DLADLTA)

Display/Edit user profiles refreshed by KCIJPDLA job or KCIJPD3 job:
 9. LPAR RTE user profile    QISUN.IDTST.JVM.WCONFIG(JVM)
10. $GBL$USR user profile    QISUN.IDTST.JVM.WCONFIG($GBL$USR)

Display/Edit $DLAMAP report created by KCIJPDLA job or KCIJPD3 job if
$DLARPT report and JVM/$GBL$USR user profiles exist:
11. $DLAMAP report          QISUN.IDTST.JVM.WCONFIG($DLAMAP)

F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP         F8=DOWN       F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE

```

For more information about the available commands, see [“PARMGEN z/OS DLA utility jobs and commands” on page 442](#).

**The parameters that can be auto-discovered by the KCIJPDLA job**

The KCIJPDLA job can automatically discover properties of on-line subsystems and other z/OS resources, then include these details in the PARMGEN runtime environment (RTE) configuration user profiles. See the table for the parameters that can be auto-discovered by the job.

<i>Table 56: DLA jobs in Utilities menu</i>	
Component	Parameters that can be auto-discovered
Common to all z/OS TEMS and z/OS agents	<p>The following parameters in the \$GBL\$USR global user profile are auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>GBL_DSN_CSF_SCSFMODE</b></li> <li>• <b>GBL_DSN_TCP_SYSTCPD_TCPDATA</b></li> <li>• <b>GBL_DSN_TCP_PROFILES</b></li> <li>• <b>GBL_DSN_CEE_SCEERUN2</b></li> <li>• <b>GBL_DSN_NETVIEW_CNMLINK</b></li> <li>• <b>GBL_DSN_TCP_SYSTCPD_TCPDATA</b></li> </ul>

Component	Parameters that can be auto-discovered
IBM OMEGAMON for JVM on z/OS	<p>The JVM subsystem and application types, and their respective z/OS® UNIX® System Services directories are auto-discovered. The z/OS UNIX directories for the following parameters are listed in the <b>KJJDFINL Post-configuration README</b> for the KJJ agent:</p> <ul style="list-style-type: none"> <li>• <b>JVMPROFILEDIR</b></li> <li>• <b>USSHOME</b></li> <li>• <b>STDENV</b></li> <li>• <b>JVMOPMAS</b></li> <li>• <b>PROCLIB</b></li> </ul>
OMEGAMON® AI for Db2	<p>The following LPAR RTE user profile parameters are auto-discovered for each Db2 subsystem:</p> <ul style="list-style-type: none"> <li>• <b>KD2_DBnn_DB2_SSID</b></li> <li>• <b>KD2_DBnn_DB2_VER</b></li> <li>• <b>KD2_DBnn_DB2_LOADLIB</b></li> <li>• <b>KD2_DBnn_DB2_RUNLIB</b></li> <li>• <b>KD2_DBnn_PWH_LOADLIB</b></li> <li>• <b>KD2_DBnn_PWH_EXITLIB</b></li> <li>• <b>KD2_DBnn_DB2_SYSNAME</b></li> </ul> <p>The following \$GBL\$USR global user profile parameters are auto-discovered for each Db2 subsystem:</p> <ul style="list-style-type: none"> <li>• <b>GBL_DSN_DB2_LOADLIB_V11</b></li> <li>• <b>GBL_DSN_DB2_RUNLIB_V11</b></li> <li>• <b>GBL_DSN_DB2_LOADLIB_V12</b></li> <li>• <b>GBL_DSN_DB2_RUNLIB_V12</b></li> <li>• <b>GBL_DSN_DB2_SDSNLOAD</b></li> <li>• <b>GBL_DSN_DB2_DSNEXT</b></li> </ul>
OMEGAMON for CICS	<p>The following LPAR RTE user profile parameter for each CICS region is auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>KC2_HSnn_CLASSIC_CICS_REGION</b></li> </ul>
OMEGAMON for CICS TG	<p>The following LPAR RTE user profile parameter for each CICS TG Gateway Daemon STC name or the WebSphere region is auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>KGW_SAnn_CTG_DAEMON_STC</b></li> </ul> <p>The following \$GBL\$USR global user profile parameter is auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>GBL_DSN_CICS_CTG_DLL</b></li> </ul>

Component	Parameters that can be auto-discovered
OMEGAMON for IMS on z/OS	<p>The following LPAR RTE user profile parameters for each IMS subsystem are auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>KI2_I1nn_CLASSIC_IMSID</b></li> <li>• <b>KI2_I1nn_CLASSIC_IMS_RESLIB</b></li> </ul> <p>The following \$GBL\$USR global user profile parameters are auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>GBL_DSN_IMS_RESLIB</b></li> <li>• <b>GBL_DSN_IMS_SCEXLINK</b></li> <li>• <b>GBL_DSN_IMS_SFUNLINK</b></li> </ul>
IBM MQ Monitoring	<p>The following \$GBL\$USR global user profile parameters are auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>GBL_DSN_WMQ_SCSQANLE</b></li> <li>• <b>GBL_DSN_WMQ_SCSQAUTH</b></li> <li>• <b>GBL_DSN_WMQ_SCSQLOAD</b></li> </ul> <p>Auto-discover WCONFIG(KMQ\$CUSR) RKANCM DU(KMQUSER) imbed to add placeholder entries for discovered MQ Queue managers.</p>
IBM Integration Bus (IIB) Monitoring	<p>The following LPAR RTE user profile parameters are auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>KQI_XML_XIMBNAME_MON_BRKR_NAME</b></li> <li>• <b>KQI_XML_XIMBDIR1</b></li> </ul> <p>The following \$GBL\$USR global user profile parameter is auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>GBL_DSN_CEE_SCEERUN</b></li> </ul> <p>Auto-discover WCONFIG(KQI\$XML) RKANDATV(KQIXML) imbed to add XML entries for additional QI brokers to monitor.  Auto-discover monitored brokers and list each discovered broker's <b>STDENV USS directory in the KQIDFINL "Post-configuration"</b> tailored on-line README for the KQI Agent.</p>
OMEGAMON for Networks	<p>The following LPAR RTE user profile parameters for each TCP/IP stack are auto-discovered:</p> <ul style="list-style-type: none"> <li>• <b>KN3_TCPXnn_TCPIP_PROFILES_DSN</b></li> <li>• <b>KN3_TCPXnn_TCPIP_PROFILES_MBR</b></li> </ul>

Component	Parameters that can be auto-discovered
OMEGAMON for JVM V5.4.0	<p>Auto-discover the various JVM subsystem and application types running that are eligible for monitoring, and their respective z/OS UNIX directories to make it easier for customer to add the OMEGAMON for JVM monitoring Agent's (-javaagent) and IBM Java Health Center Agent's (-Xbootclasspath, -agentpath) respective enablement options. List each discovered z/OS UNIX directory or file location for these parameters in the xKANSAMU(KJJDFINL) post-configuration tailored on-line README for KJJ Agent:</p> <ul style="list-style-type: none"> <li>• JVMPROFILEDIR / USSHOME from CICS SIT for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in CICS JVMs.</li> <li>• STDENV for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in CICS Transaction Gateway (CTG) JVMs.</li> <li>• JVMOPMAS PROCLIB for IMS JMP for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in IMS JVMs.</li> <li>• STDENV for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in WebSphere Liberty z/OS Connect EE JVMs.</li> <li>• JVM_OPTIONS in HBRMSTR file for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in ODM.</li> </ul>

## Helpful PF keys for configuration profile customization

Apart from the common PF keys for panel navigation, the PARMGEN configuration method also provides several PF keys that are specifically designed to help you with the configuration profile customization.

Use the following PF keys properly to make the configuration profile customization easier.

### F1

Place the cursor on a parameter and press **F1** to show the online help information of this parameter.

### F15 (or Shift + F3)

Press **F15** in the configuration profile to hide profile comments. Type **RESET** to return to the full configuration profile with comments.

### F16 (or Shift + F4)

Press **F16** to clone parameter section for a table row.

### F22 (or Shift + F10)

Place the cursor on a parameter and press **F22** to search the parameter in PARMGEN IK\*/W\*/RK\* libraries. With this function you will be able to location the datasets that are affected by the change of a parameter.

### F23 (or Shift + F11)

Press **F23** in the configuration profile to show only the following parameters:

- Required product parameters
- Parameters with best-practice IBM default values. You might need to change the values based on your site deployment needs.

Type **RESET** to return to the full configuration profile with all parameters.

### F24 (or Shift + F12)

Press **F24** in the configuration profile to show only the ADVANCED parameters that are optional or conditional. Best-practice IBM default values are provided, but you might need to change the values based on your site deployment needs. Type **RESET** to return to the full configuration profile with all parameters.

## Customizing the runtime environment configuration profile

The runtime environment (RTE) configuration profiles contains the parameter values that define an RTE: the type of RTE, the communication protocols and addresses, the framework features that are enabled, and the products and components that are configured in it. The profile is already tailored (by the KCIJPUP1 job) with values supplied during the process of setting up the environment. In addition, default values are provided for all

other required parameters and some optional ones. If you do not want to customize these parameters, and you do not want to enable optional features, you do not need to edit the profile. However, if you want to override defaults with site-specific values, or you want to use optional features, you can edit the profile.

## Before you begin

Make sure that you are aware of any site-specific requirements and any other prerequisites (such as authorization for started tasks, naming conventions, available ports, z/OS® UNIX® System Services data sets). Check the documentation for every product that you are configuring in the RTE for any product-specific configuration requirements.

## About this task

For help with the parameters and permissible values, consult the following resources:

- Comments in the profiles
- Online help for parameters (F1)
- [“Common parameters” on page 1257](#)
- The *Parameter Reference* for each product

## Procedure

1. To edit the profile, select **Customize PARMGEN Configuration Profiles** from the Workflow primary option menu.

The Customize the PARMGEN Configuration Profile Members (KCIP@PG06) panel is displayed.

```
KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

    *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
    *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required)      Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
    *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
        global library (TDITN.IDTST.PARMGEN.JCL).
        Add/Modify system/user-defined symbols and their
        resolution values, for override variables used as parameter
        values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
    4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

    5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
    6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
    7. $SYSIN $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to display the RTE configuration profile in edit mode.

## What to do next

Specify the appropriate RTE- and product-specific parameter values.

## Update the USER PROLOG

The RTE configuration profile contains a prolog section in which you can log changes you make in this member for future reference.

## Procedure

- Perform a FIND on USER PROLOG to locate this section and update it accordingly.

“Figure: Update the user prolog” on page 451 shows an example of this section in the profile for the DEMO runtime environment.

```

SP22 ISREDDE2 TSTEST.&userid.DEMO.WCONFIG(DEMO)
Command
Scroll ===> CSR
***** Top of Data *****
000001 * *****
000002 * Member: KCICFG##
000003 * Master Source: TSTEST.ITM62351.TKANSAM(KCIPRLB)
000004 * KCIJPUP1 Batch Job Output:
000005 * TSTEST.&userid.DEMO.WCONFIG($CFG$IBM) - IBM Default Copy
000006 * TSTEST.&userid.DEMO.WCONFIG(DEMO) - Customer Copy
000007 *
000008 * PURPOSE:
000009 * $CFG$IBM/DEMO members are the default composite PARMLIB
000010 * configuration profiles which contain parameter values for all the
000011 * product parameters in a runtime environment (RTE). $CFG$IBM is
000012 * the maintenance copy of the DEMO default copy and
000013 * is available for reference only. $CFG$IBM is always refreshed
000014 * during maintenance of any new or changed product configuration
000015 * parameters.
.
000180 * SECTION: USER PROLOG (OPTIONAL)
000181 * *****
000182 * +-----+-----+-----+-----+-----+
000183 * |NO.| CHANGE DESCRIPTION | DATE | ID |*
000184 * +-----+-----+-----+-----+-----+
000185 * |@nn| |mm/dd/yy| xx |*
000186 * *****

```

Figure 77: Update the user prolog

## Verify the list of products to be configured within this runtime environment

The configuration profile contains a list of products and components to be configured as part of this runtime environment (RTE). This list should match with the list of products that you selected when you set up the work libraries for the RTE. If any products are added or removed from this RTE after initial configuration, update this section accordingly.

## Procedure

- Review the list of products in the CONFIGURE PRODUCTS section and set the flags as required. “Figure: Verify the list of products in the runtime environment” on page 451 shows an example of this section.

```

SP22 TSTEST.&userid.DEMO.WCONFIG(DEMO)
Command
====> Scroll ===> CSR
000216 * =====
000217 * Master Flags from CONFIGURE_PRODUCTS USER SECTION in KCIJPCFG job:
000218 * =====
000219 * -----
000220 * SECTION: CONFIGURE_PRODUCTS:
000221 * Note: Specify "Y" or "N" to the product-specific CONFIGURE_*_&ppp
000222 * product flag if the &ppp product is to be configured in the
000223 * DEMO RTE:
000224 * -----
000225 * Tivoli Enterprise Monitoring Server: KDS flag
000226 CONFIGURE_TEMS_KDS "Y"
000227 * IBM Tivoli OMEGAMON for CICS on z/OS: KC5 flag
000228 CONFIGURE_CICS_KC5 "Y"
000229 * IBM Tivoli OMEGAMON for CICS TG on z/OS: KGW flag
000230 CONFIGURE_CICS_TG_KGW "Y"
000231 * IBM Tivoli OMEGAMON for DB2 PE: KD5 flag
000232 CONFIGURE_DB2_AGENT_KD5 "N"
000233 * IBM Tivoli OMEGAMON for IMS on z/OS: KI5 flag
000234 CONFIGURE_IMS_KI5 "N"
000235 * IBM Tivoli OMEGAMON for z/OS: KM5 flag
000236 CONFIGURE_ZOS_KM5 "Y"

```

Figure 78: Verify the list of products in the runtime environment

## Update the TCP/IP port values used across the runtime environment

The ports for all monitoring agents and any monitoring servers must be the same for communication to be successful. If you are configuring the runtime environment (RTE) with the default protocols of IP and IP.PIPE and plan to use a different port number than the default value (1918), update the values for all ports specified within the profile.

### Procedure

1. Perform an EXCLUDE FIND on \_PORT to list all the TCP/IP port values to be used by the products within this RTE to communicate with each other.
2. Update all port numbers to the value that you want to use.  
“[Figure: Update TCP/IP port values](#)” on [page 452](#) shows an example of this step, where nnnnn is the port number that you choose to use.

```
SP22 TSTEST.&userid.DEMO.WCONFIG(DEMO) - 01.00 Columns 00001 00072
Command ==> C ' 1918 ' ' nnnnn ' ALL          Scroll ==> CSR
- - - - - 485 Line(s) not Displayed
000486 RTE_TCP_PORT_NUM          1918
- - - - - 13 Line(s) not Displayed
000654 KDS_TEMS_TCP_PIPE_PORT_NUM 1918      * IP.PIPE
000655 KDS_TEMS_TCP_UDP_PORT_NUM  1918      * IP.UDP
000656 KDS_TEMS_TCP_PIPE6_PORT_NUM ""        * IP.PIPE for IPV6
000657 KDS_TEMS_TCP_UDP6_PORT_NUM ""        * IP.UDP for IPV6
000658 KDS_TEMS_TCP_PIPE6S_PORT_NUM ""       * Secure IP.PIPE
000659 KDS_TEMS_TCP_PIPE6S_PORT_NUM ""       * Secure IP.PIPE for IPV6
- - - - - 72 Line(s) not Displayed
000758 KDS_PH01_TEMS_TCP_PORT_NUM 1918
- - - - - 38 Line(s) not Displayed
001094 KC5_TEMS_TCP_PIPE_PORT_NUM 1918      * IP.PIPE
001095 KC5_TEMS_TCP_UDP_PORT_NUM  1918      * IP.UDP
001096 KC5_TEMS_TCP_PIPE6_PORT_NUM ""        * IP.PIPE for IPV6
001097 KC5_TEMS_TCP_UDP6_PORT_NUM ""        * IP.UDP for IPV6
001098 KC5_TEMS_TCP_PIPE6S_PORT_NUM ""       * Secure IP.PIPE
001099 KC5_TEMS_TCP_PIPE6S_PORT_NUM ""       * Secure IP.PIPE for IPV6
- - - - - 345 Line(s) not Displayed
***** ***** Bottom of Data *****
```

Figure 79: Update TCP/IP port values

### Specify the TCPIP.DATA data set

Every agent and monitoring server started task generated in a runtime environment contains an SYSTCPD DD statement. This statement specifies the data set to be used to obtain the parameters defined by TCPIP.DATA if no GLOBALTCPIPDATA statement is configured. The DD statement is tailored using parameters specified in the RTE configuration profile.

### About this task

If you customize these parameters, you must also customize the GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA parameter in the \$GBL\$USR global profile.

### Procedure

- To enable the SYSTCPD DDNAME automatically for all started tasks in a runtime environment, ensure that the value of the following parameters is set to Y:  
KDS\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG  
KAG\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG

```
EDIT          IBM . ITM62351 . DEMO . WCONFIG (DEMO)
Command ==>
000541 KDS_X_STC_SYSTCPD_INCLUDE_FLAG      Y
000542 KAG_X_STC_SYSTCPD_INCLUDE_FLAG      Y
```

### Result

When PARMGEN creates the monitoring server and agent started tasks, the DDNAME is automatically generated and file-tailored to point to the TCPDATA library.

## Update the global VTAM major node

By default, the name of the VTAM major node is KCANDLE1. You might want to change the name in accordance with the naming conventions for your environment.

### Procedure

1. Perform a FIND on RTE\_VTAM\_GBL\_MAJOR\_NODE to find the parameter for the global VTAM major node:

```
000568 ** VTAM SNA values:
000569
000570 RTE_VTAM_APPLID_PREFIX   CTD
000571 RTE_VTAM_NETID          USCAC001
000572 RTE_VTAM_LU62_DLOGMOD   CANCTDCS
000573 RTE_VTAM_LU62_MODETAB   KDSMTAB1
000574 RTE_VTAM_GBL_MAJOR_NODE KCANDLE1
000575 RTE_VTAM_APPLID_MODEL    Y
```

2. Replace KCANDLE1 with the appropriate value.

## Enable APF-authorization statements

PARMGEN provides the ability to generate the required APF-authorization commands for all libraries concatenated within the STEPLIB and RKANMODL DD names for all generated started tasks (STCs). If you do not enable this parameter, you must manually APF-authorize all libraries.

(For more information on APF authorizing libraries, see [“Completing the configuration outside the configuration software” on page 522.](#))

### Procedure

1. In the RTE configuration profile, perform a FIND on RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG.
2. Change the value of the parameter to Y.

```
SP22 TSTEST.&userid.DEMO.WCONFIG(DEMO) - 01.00 Columns 00001 00072
Command ==>                               Scroll ==> CSR
000528 ** (Optional) INAPF INCLUDE statement in product started tasks (STCs):
000529 ** Specify "Y" if you want to generate this statement as uncommented
000530 ** out in all product STCs: "INAPF INCLUDE MEMBER=%RTE_STC_PREFIX%APF"
000531 ** This sample composite member contains APF-authorization commands for
000532 ** libraries concatenated in the STC STEPLIB and RKANMODL DDNAMEs.
000533 ** This member also contains the VARY activate command pointing to the
000534 ** %RTE_VTAM_GBL_MAJOR_NODE% VTAM major node (TSSND122 by default).
000535 ** Review %RTE_STC_PREFIX%APF and %RTE_STC_PREFIX%STRT WKANSAMU
000536 ** members for more information.
000537 RTE_X_STC_INAPF_INCLUDE_FLAG          Y
```

## Update the z/OS® UNIX® System Services directory

If any of the products that you are configuring require any z/OS UNIX directories running on either the Hierarchical File System (HFS) or on the zSeries File System (zFS), or if you are planning to enable the self-describing agent feature, you must specify the directory to be used.

### Procedure

1. Perform a FIND on the RTE\_USS\_RTEDIR parameter.
2. Replace the default value with the name of the z/OS UNIX directory reserved for this purpose.

```
RTE_USS_RTEDIR          "/rtehome"
```

## Configuring OMNIMON Base

OMNIMON Base is a set of common code that is used by several OMEGAMON components and the OMEGAMON Enhanced 3270 user interface to control initialization, security, and I/O for all sessions. You can also configure the components for functions like near-term history data collection.

## About this task

OMNIMON Base has two components:

### OMEGAMON Subsystem

A z/OS subsystem that runs in its own address space. The subsystem enables OMEGAMON components in other address spaces to monitor dynamic device activity. A single OMEGAMON Subsystem can support multiple OMEGAMON products on a single z/OS image. Some OMEGAMON monitoring products, such as OMEGAMON for Networks, do not use the OMEGAMON Subsystem.

### OMEGAMON enhanced 3270 user interface

A 3270-based user interface that collects and displays data from the Tivoli Enterprise Monitoring Server and OMEGAMON monitoring agents for z/OS. One instance of the interface must be installed in each Sysplex for use by all supporting agents.

## Procedure

Configure the OMEGAMON Subsystem by modifying the following parameters.

- Code sample of the parameters that are not specific to any subsystem feature.

```
RTE_KCNSTR00_SSID          CNDL
RTE_KCNSTR00_XCFGROUP     KCNXCFCF
RTE_KCNSTR00_WTO          ERROR
RTE_KCNDLSSI_IEFSSN00_FORMAT K
RTE_X_KCNSTR00_REFRESH    60
RTE_X_KCNSTR00_PLEXCOLLECT YES
RTE_X_KCNDLSSI_INITPARM_FLAG Y
```

For more information about each parameter, see the following topics:

- [RTE\\_KCNSTR00\\_SSID](#)
  - [RTE\\_KCNSTR00\\_XCFGROUP](#)
  - [RTE\\_KCNSTR00\\_WTO](#)
  - [RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT](#)
  - [RTE\\_X\\_KCNSTR00\\_REFRESH](#)
  - [RTE\\_X\\_KCNSTR00\\_PLEXCOLLECT](#)
  - [RTE\\_X\\_KCNDLSSI\\_INITPARM\\_FLAG](#)
- In the OMEGAMON Subsystem, the following parameters are related to the OMEGAMON enhanced 3270 user interface:

```
RTE_CANSCN_STC            IBMCN
RTE_KCN_VTAM_APPL_LOGON   CTDCNAP    * Cache APPL
RTE_KCN_VTAM_NODE         CTDCNN     * Cache Node
RTE_KM5_NTH               Y          * Y, YES, N, NO
```

For more information about each parameter, see the following topics:

- [RTE\\_CANSCN\\_STC](#)
  - [RTE\\_KCN\\_VTAM\\_APPL\\_LOGON](#)
  - [RTE\\_KCN\\_VTAM\\_NODE](#)
  - [RTE\\_KM5\\_NTH](#)
- For the OMEGAMON components that use ITM persistent datastore (PDS):

**Important:** The content in this step, including the parameters, was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated. For information about configuring PDS V2, see [“Configuring PDS V2” on page 1237](#).

- The LPAR RTE profile parameters in the following code sample control the ITM PDS settings for all products that collect ITM short-term history for the OMEGAMON Enhanced 3270 User Interface.

```

RTE_PDS_HILEV          USR.IBM.RTE
RTE_PDS_KPDPROC_PREFIX  IBMPD
RTE_PDS_BATCHINIT_FLAG      N          * xKANPARU(KppPCTL) option
RTE_PDS_BACKUP_FLAG        N          * xKANPARU(KppPG) option
RTE_PDS_EXPORT_FLAG        N          * xKANPARU(KppPG) option
RTE_PDS_EXTRACT_FLAG       N          * xKANPARU(KppPG) option
RTE_PDS_SMS_VOLUME         ""         * xKANPARU(KppAL) option
RTE_PDS_SMS_UNIT           ""         * xKANPARU(KppAL) option
RTE_PDS_SMS_STORCLAS       ""         * xKANPARU(KppAL) option
RTE_PDS_SMS_MGMTCLAS       ""         * xKANPARU(KppAL) option

```

For more information on each parameter, see the following topics:

- [RTE\\_PDS\\_HILEV](#)
- [RTE\\_PDS\\_KPDPROC\\_PREFIX](#)
- [RTE\\_PDS\\_BATCHINIT\\_FLAG](#)
- [RTE\\_PDS\\_BACKUP\\_FLAG](#)
- [RTE\\_PDS\\_EXPORT\\_FLAG](#)
- [RTE\\_PDS\\_EXTRACT\\_FLAG](#)
- [RTE\\_PDS\\_SMS\\_VOLUME](#)
- [RTE\\_PDS\\_SMS\\_UNIT](#)
- [RTE\\_PDS\\_SMS\\_STORCLAS](#)
- [RTE\\_PDS\\_SMS\\_MGMTCLAS](#)
- The following parameters are product-specific for TEMS and Agents that determine the size and number of the allocated files per product.
  - [Kpp\\_PD\\_\\*](#)
  - [Kpp\\_PDS\\_FILE\\_COUNT](#)
  - [Kpp\\_X\\_PD\\_HISTCOLL\\_DATA\\_\\*](#)

The following code sample is for configuring TEMS PDS.

```

KDS_PDS_FILE_COUNT      6          * xKANPARU(KppAL) option
KDS_PD_CYL              36         * GROUP=GENHIST

```

The following code sample is for configuring OMEGAMON for CICS Agent history data collection in the Agent address space.

```

KC5_PD_HISTCOLL_DATA_IN_AGT_STC  Y          * Enablement Parameter *
KC5_PD_CYL                    600         * GROUP=OMCICS

```

The following code sample is for configuring OMEGAMON for z/OS Agent history data collection in the TEMS address space.

```

KM5_PD_HISTCOLL_DATA_IN_TEMS_STC  Y          * Enablement Parameter *
KM5_PD_CYL_LPARDATA              605         * GROUP=LPARDATA
KM5_PD_CYL_PLEXDATA              190         * GROUP=PLEXDATA

```

For more information on each parameter, see the following topics:

- [KPP\\_PD\\_CYL](#)
- [KPP\\_PD\\_HISTCOLL\\_DATA\\_IN\\_TEMS\\_STC](#)
- [KPP\\_PD\\_HISTCOLL\\_DATA\\_IN\\_AGT\\_STC](#)
- [KPP\\_PDS\\_FILE\\_COUNT](#)
- [KPP\\_X\\_PD\\_HISTCOLL\\_DATA\\_TEMS\\_STC](#)

- KPP\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC

## Allocate data sets and configure maintenance for historical data

To collect historical data for display in either the Tivoli® Enterprise Portal or the OMEGAMON® Enhanced 3270 user interface, you must allocate data sets to store the data. You must configure the persistent datastore (PDS) that manages the collected data.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

You can use the defaults or configure any of the following parameters:

- A high-level qualifier for the historical data sets and a prefix for the PDS maintenance procedures.
- The number of files to be allocated for historical data storage.
- For non-SMS managed files, the location where the files are allocated.
- Disposition of the data in data sets that are being emptied by PDS maintenance.
- The address space that does the data collection.
- The number of cylinders to set aside on behalf of each product and the name of the PDS group.

No collection of historical data occurs unless collection is configured through either the Tivoli® Enterprise Portal or the OMEGAMON® Enhanced 3270 user interface.

For more information about these parameters, see [Common parameters](#).

### Procedure

- Specify a high-level qualifier for the historical data sets and a prefix for the PDS maintenance procedures other than the defaults.

TUTORIAL INFORMATION

#### **RTE\_PDS\_HILEV**

The default for data sets is %RTE\_HILEV.%RTE\_NAME%.

#### **RTE\_PDS\_KPDPROC\_PREFIX**

The default is %RTE\_STC\_PREFIX%.PD (IBMPD, previously KPDPROC).

- For non-SMS managed files, specify where the files are allocated.

**RTE\_PDS\_SMS\_VOLUME**  
**RTE\_PDS\_SMS\_UNIT**  
**RTE\_PDS\_SMS\_STORCLAS**  
**RTE\_PDS\_SMS\_MGMTCLAS**

- Configure maintenance for the PDS.

The PDS periodically empties and reuses the data set with the oldest data. You can configure what is to be done with historical data that is sitting in a data set that is being emptied. The default is to delete the data. Alternatively, you can configure maintenance to back up the data to tape or DASD, export the data to an external program for processing, or extract the data and write it in a viewable format by specifying Y or N for the following parameters. The default for each is N.

**RTE\_PDS\_BACKUP\_FLAG**  
**RTE\_PDS\_EXPORT\_FLAG**  
**RTE\_PDS\_EXTRACT\_FLAG**

- Specify the PDS initialization option.

The PDS initialization process can take place in the running address space so long as BACKUP, EXPORT, and EXTRACT are set to N. The **RTE\_PDS\_BATCHINT\_FLAG** defaults to N. To run the PDS maintenance as a batch process, set this flag to Y.

- Specify which address space does data collection.

Location of data collection is configured on a product-by-product basis. Historical data may be collected by the agent address space or the monitoring server address. Some products (OMEGAMON® for z/OS® and OMEGAMON® for Storage on z/OS®) can collect data only at the monitoring server address space (`Kpp_PD_HISTCOLL_DATA_IN_TEMS_STC=Y`). Other products (OMEGAMON® for IMS™, OMEGAMON® AI for Db2, and OMEGAMON® for CICS®) can collect with either monitoring server or agent address space. Some products can collect data at either, but collecting data in the stand-alone agent address space is preferred.

`Kpp_PD_HISTCOLL_DATA_IN_AGT_STC`  
`Kpp_PD_HISTCOLL_DATA_IN_TEMS_STC`

Or (if no corresponding parameter existed in the previous configurations)

`Kpp_X_PD_HISTCOLL_DATA_IN_AGT_STC`  
`Kpp_X_PD_HISTCOLL_DATA_IN_TEMS_STC`

- Specify the number of cylinders to set aside on behalf of each product and the name of the PDS group.

`Kpp_PD_CYL`

- Specify the number of files to be allocated (if other than the default).

`Kpp_PDS_FILE_COUNT`

The default is 6 files.

## What to do next

To complete configuration of historical data collection, perform the following tasks:

- Run the jobs that allocate the data sets (\$PARSE, KCIPPALO).
- If not already done during preconfiguration preparation, provide access to the PDS files.
- Authorize the KPDDSCO module.
- Verify the PDS configuration.
- Configure data collection through either the Tivoli® Enterprise Portal or the OMEGAMON® Enhanced 3270 user interface.

See the configuration information for each monitoring agent for product-specific configuration details. For more information about the persistent datastore, see [Maintaining the persistent data store](#). For instructions for completing configuration tasks outside the configuration software, see [“Completing the configuration outside the configuration software” on page 522](#).

## Configure a Tivoli Enterprise Monitoring Server

The presence or absence of a monitoring server and the type of server (hub or remote, static or high-availability) can be defined as part of setting up of the runtime environment (RTE) or in the RTE configuration profile. If a monitoring server has already been defined for this RTE, you might still need to edit the RTE configuration profile to enable or disable specific features and to specify properties specific to monitoring servers (such as communications protocols, or, for a remote, the name of the hub to which it connects). The parameters that affect this component use the prefix KDS.

## About this task

When you configure a monitoring server, you can accept the defaults or specify the following properties:

- Started task name
- Communications protocols to be used with other components
- Interface list support (if required)
- Address translation support (if required)
- VTAM information
- Applids
- Security settings

In addition, the following features are configured for a monitoring server in the RTE configuration profile.

- Support for self-describing agents  
By default, support for self-describing agents is disabled on monitoring servers.
- Event forwarding (hub only)

- SOAP server
- Auditing

For information about specific parameters, see [Tivoli Enterprise Monitoring Server \(KDS\) parameters](#).

#### Configuring a high-availability hub

A configuration that includes a high-availability (HA) hub is resilient and efficient. It is resilient because the HA hub can be relocated to any LPAR in the sysplex with minimal disruption to the other components. The configuration is efficient because the remote monitoring server on the same LPAR as the hub handles all communications with the monitoring agents and thus reduces the load on the hub. If your environment supports the requirements for a HA hub, you should configure one.

### About this task

You can configure a high-availability hub monitoring server in any sysplex environment with dynamic virtual IP addressing (DVIPA) and shared DASD. A high-availability hub is configured in its own runtime environment, without any monitoring agents, and can be configured on the same LPAR with a remote monitoring server. It is recommended that system variables are not enabled on an high-availability hub. This configuration allows the hub monitoring server to be relocated to any suitable LPAR in the sysplex with no changes, and with minimal disruption to the components connecting to the hub.

“[Figure: High-availability hub monitoring server and its connections](#)” on page 458 depicts an HA hub monitoring server connected to a remote monitoring on the same LPAR, to remote monitoring servers on other LPARs, to remote monitoring servers on distributed systems, and to the Tivoli Enterprise Portal server.

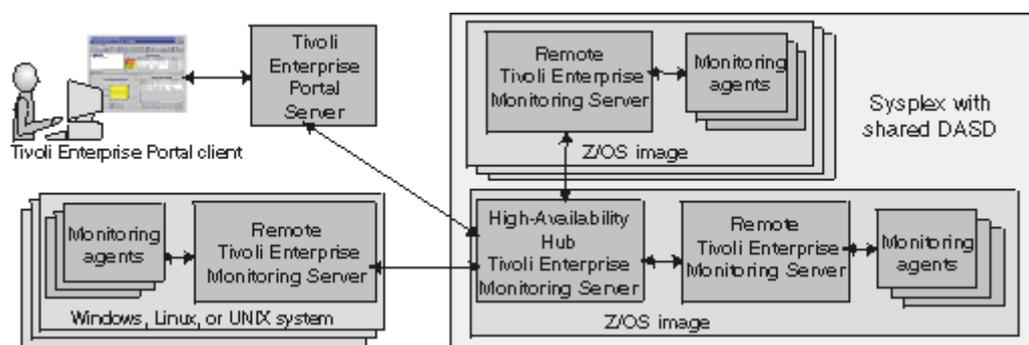


Figure 80: High-availability hub monitoring server and its connections

**Reminder:** An HA hub is the only type of hub that can be on the same LPAR with a remote monitoring server that reports to it. You can configure monitoring agents to report to the remote hub. You should not configure monitoring agents to report directly to the HA hub.

#### Tips:

- The parameters shown in this section are not the only parameters you might need to set in the configuration profile for the runtime environment. After you set the parameters shown here, be sure to go through the entire configuration profile to make sure the parameter values are correct for the configuration you want.
- The parameters with names beginning **KDS\_HUB** are *not* parameters for the hub monitoring server; they are parameters for remote monitoring servers.
- For information on the XF ("EXCLUDE FIND") macro, see "[XF edit macro](#)" on page 426.

The following instructions assume that the **KDS\_TEMS\_TYPE** parameter was set to HUB and the **KDS\_TEMS\_HA\_TYPE** parameter was set to HA during the set up of the environment. If this is not the case, set those parameters in the RTE configuration profile before completing the following procedure.

### Procedure

1. Do an EXCLUDE FIND of all **\_TCP\_HOST** strings, then customize all occurrences of the LPAR name to the reserved DVIPA name.

In this example, this is hostname OMEGHAHUB.

```
ISREDDE2 TSTEST.&userid.HAHUB.WCONFIG(HAHUB)
Command ==> C &hostname OMEGHAHUB ALL                               Scroll ==> CSR
***** ***** Top of Data *****
- - - - - 307 Line(s) not Displayed
000308 **      000029 RTE_TCP_HOST          "OMEGHAHUB"
- - - - - 197 Line(s) not Displayed
000506 RTE_TCP_HOST          "OMEGHAHUB"
- - - - - 186 Line(s) not Displayed
000693 ** Note: If this is a High-Availability Hub TEMS, KDS_TEMS_TCP_HOST
- - - - - 1 Line(s) not Displayed
000695 KDS_TEMS_TCP_HOST      "OMEGHAHUB"
- - - - - 90 Line(s) not Displayed
000786 ** Note: If this is a High-Availability Hub TEMS, KDS_PH01_TEMS_TCP_HOST
- - - - - 9 Line(s) not Displayed
000796 KDS_PH01_TEMS_TCP_HOST "OMEGHAHUB"
- - - - - 32 Line(s) not Displayed
***** ***** Bottom of Data *****
```

2. Do an EXCLUDE FIND of all **\_PORT** parameters, then customize **\_PORT** according to your site's conventions.

```
ISREDDE2 TSTEST.&userid.HAHUB.WCONFIG(HAHUB)
Command ==> C ' 1918 ' ' nnnnn ' ALL                               Scroll ==> CSR
***** ***** Top of Data *****
- - - - - 507 Line(s) not Displayed
==CHG> RTE_TCP_PORT_NUM          nnnnn
- - - - - 176 Line(s) not Displayed
==CHG> KDS_TEMS_TCP_PIPE_PORT_NUM nnnnn * IP.PIPE
==CHG> KDS_TEMS_TCP_UDP_PORT_NUM  nnnnn * IP.UDP
- - - - - 110 Line(s) not Displayed
==CHG> KDS_PH01_TEMS_TCP_PORT_NUM nnnnn
- - - - - 151 Line(s) not Displayed
***** ***** Bottom of Data *****
```

3. Customize the monitoring server protocols to support only IP: At least one of the values must be IPPPIPE, IP6PIPE, IPSPIPE, or IP6SPIPE. Nullify the **KDS\_TEMS\_COMM\_PROTOCOL3** parameter by setting it to "" (instead of the SNA value set initially).

```
ISREDDE2 TSTEST.&userid.HAHUB.WCONFIG(HAHUB)
Command ==>                               Scroll ==> CSR
000658 ** TEMS communication protocols:
000659 ** Specify the communication protocols to be used by the local TEMS.
000660 ** Valid values are IPPPIPE, IP, SNA, IP6PIPE, IP6, IPSPIPE, and
000661 ** IP6SPIPE. When communication with another ITM component (TEPS, Hub
000662 ** TEMS or Remote TEMS, Agents) is initiated, the TEMS tries Protocol 1
000663 ** first and goes to Protocol 2 and so on, in case of failure.
000664 ** Note: Update the corresponding KDS_TEMS_TCP_*_PORT_NUM port number
000665 ** parameter for each KDS_TEMS_COMM_PROTOCOLx parameter enabled.
000666 ** For example, if KDS_TEMS_COMM_PROTOCOL1="IPPIPE", set the
000667 ** corresponding KDS_TEMS_TCP_PIPE_PORT_NUM parameter.
000668 ** If KDS_TEMS_COMM_PROTOCOL2="IP" (for IP.UDP), set the
000669 ** corresponding KDS_TEMS_TCP_UDP_PORT_NUM parameter.
000670 ** If this is a Remote TEMS, update the KDS_HUB_* parameters
000671 ** by uncommenting out the corresponding KDS_HUB_TCP_*_PORT_NUM
000672 ** parameters and specify the Remote's Hub TEMS port numbers.
000673 KDS_TEMS_COMM_PROTOCOL1      IPPPIPE
000674 KDS_TEMS_COMM_PROTOCOL2      IP
000675 KDS_TEMS_COMM_PROTOCOL3      ""
```

4. Uncomment the **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** parameter, then change its value from the default (!\*) to *!dvipa\_hostname*, where *dvipa\_hostname* is the private DVIPA name set for the **KDS\_TEMS\_TCP\_HOST** parameter (in this example, !OMEGHAHUB). This setting ensures that the high-availability hub is restricted to its private DVIPA address and cannot interfere with the remote monitoring server configured on the same LPAR.

```
ISREDDE2 TSTEST.&userid.HAHUB.WCONFIG(HAHUB)
Command ==>                               Scroll ==> CSR
000698 ** If the TEMS requires network interface list support:
000699 ** Note: If this is a High-Availability Hub TEMS, uncomment the
000700 **      KDS_TEMS_TCP_KDEB_INTERFACELIST and set its value to
000701 **      "!<dvipa_address>"
000702 KDS_TEMS_TCP_KDEB_INTERFACELIST  "!OMEGHAHUB"
```

## What to do next

These are not the only parameters you might want to set. For example, you might want to configure the monitoring server to enable event forwarding, support for self-describing agents, auditing, or the SOAP server.

#### Configuring a static hub monitoring server

A hub monitoring server that is not configured for high availability is sometimes referred to as a *static* hub. A static hub can be configured in the same runtime environment as some or all of the agents that report to it.

### About this task

The configuration shown in “[Figure: Hub monitoring server and monitoring agents in the same runtime environment](#)” on page 460 depicts the hub monitoring server and several monitoring agents installed in the same RTE on a single z/OS® image, with the monitoring agents reporting directly to the hub. This configuration is a basic one that you can expand to accommodate more systems.

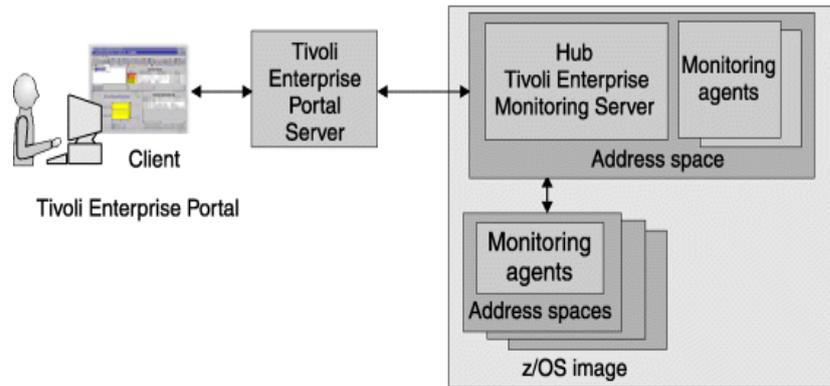


Figure 81: Hub monitoring server and monitoring agents in the same runtime environment

#### Tips:

- The parameters shown in this section are not the only parameters you might need to set in the configuration profile for the runtime environment. After you set the parameters shown here, be sure to go through the entire configuration profile to make sure the parameter values are correct for the configuration you want.
- The parameters with names beginning **KDS\_HUB** are *not* parameters for the hub monitoring server; they are parameters for remote monitoring servers.
- For information on the XF ("EXCLUDE FIND") macro, see “[XF edit macro](#)” on page 426.

The following instructions assume that the **KDS\_TEMS\_TYPE** parameter was set to HUB during the set up of the environment. If this is not the case, set those parameters in the RTE configuration profile before completing the following procedure.

### Procedure

1. Set the **KDS\_TEMS\_COMM\_PROTOCOL<sub>n</sub>** parameters.  
At least one of the values must be IPPPIPE, IP, IP6PIPE, IP6, IPSPIPE, or IP6SPIPE. If this monitoring server will communicate with any monitoring agents that require SNA, SNA must be one of the protocols chosen, but it does not have to be Protocol 1. Examples of such monitoring agents include OMEGAMON® for z/OS® (for the EPILOG facility of the OMEGAMON II® component) and OMEGAMON® for Messaging on z/OS® (for the 3270 interface component). See the product-specific configuration guides for further information about SNA requirements.
2. Set the **KDS\_TEMS\_TCP\_PIPE<sub>c</sub>\_PORT\_NUM** parameter for each protocol.  
The port number that you set for each protocol used by the hub must be re-specified for every component that will communicate with the hub.

### What to do next

There are many other **KDS\_\*** parameters that are required for hub monitoring server configuration. You must either accept the defaults for these parameters or customize them for your site. See [Tivoli Enterprise Monitoring Server \(KDS\) parameters](#) for more information on these parameters. You may also want to enable the following optional features:

- [Support for self-describing agents](#)
- [Auditing and logging](#)

- [Event forwarding](#)
- [SOAP server](#)

Be sure to uncomment any parameters that are needed for your configuration but are commented out by default. For example, if you want to enable event forwarding, uncomment the `KDS_TEMS{EIF_FLAG` parameter and make sure its value is `Y`. To uncomment a parameter in the configuration profile, delete the two asterisks (\*\*\*) from the beginning of the line.

See [Scenario QCF02: Configuring a full RTE with a static hub and variables enabled](#) for step-by-step instructions for configuring an RTE with a static hub and several monitoring agents and many of these features enabled.

### Configuring a remote monitoring server

A remote monitoring server can be configured to report to a high-availability or a static hub monitoring server. Although most sites prefer to have z/OS® agents report to a hub monitoring server on z/OS®, they can also report to a remote monitoring server that reports to a hub on a distributed system.

### About this task

The configuration shown in “[Figure: Remote monitoring server on z/OS® reporting to a hub on a distributed system](#)” on page 461 depicts a remote monitoring server reporting to a static hub monitoring server on another z/OS® LPAR.

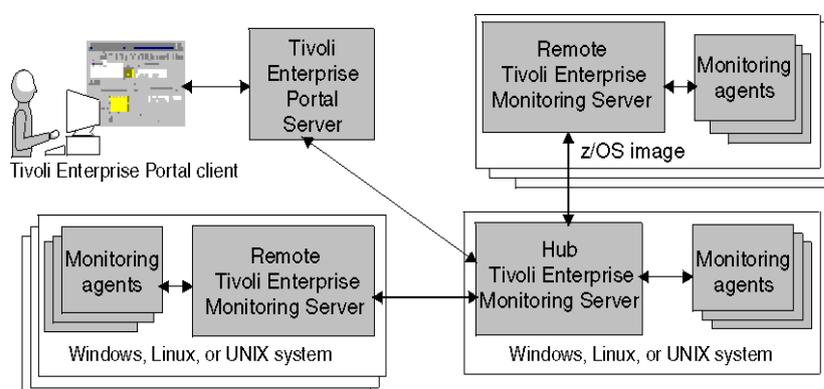


Figure 82: Remote monitoring server on z/OS® reporting to a hub on a distributed system

By default, monitoring agents are configured to report to the local monitoring server.

### Procedure

1. Set the `KDS_TEMS_COMM_PROTOCOLn` parameters.  
At least one of the communication protocols must be the same as a protocol selected for the hub.
2. Set the `KDS_TEMS_TCP_HOST` parameter to the TCP/IP host name (in dot-decimal format) of the z/OS® system where the remote monitoring server is installed.
3. Set the `KDS_HUB_TCP_HOST` parameter to the TCP/IP host name (in dot-decimal format) of the system where the hub monitoring server is installed.
4. Set the `KDS_HUB_TCP_pipe_type_PORT_NUM` to the value of the port number of the hub for each protocol selected.

### What to do next

There are many other `KDS_*` parameters that are required for monitoring server configuration. You must either accept the defaults for these parameters or customize them for your site. See [Tivoli Enterprise Monitoring Server \(KDS\) parameters](#) for more information on these parameters. You may also want to enable the following optional features:

- [Auditing and logging](#)
- [SOAP server](#)

### Enabling the self-describing agent feature at a monitoring server

By default, the self-describing agent feature is disabled. If you want to use the self-describing agent (SDA) feature, you must enable it at the agent and the remote monitoring server to which the agent reports, and at the hub monitoring server to which the remote reports.

### Before you begin

You must perform z/OS® UNIX® System Services system preparation set-up tasks to create the z/OS UNIX file system before you can enable SDA. For more information, see [RTE\\_USS\\_RTEDIR](#).

## Procedure

1. If you are configuring a monitoring server as part of this runtime environment and you want to enable SDA support, perform a FIND on KDS\_KMS\_SDA in the RTE configuration profile.
2. Change the value from N to Y.  
“[Figure: Enable the self-describing agent feature](#)” on page 462 shows an example of this change.

```
SP22                TSTEST.&userid.DEMO.WCONFIG(DEMO)
Command ==>                               Scroll ==> CSR
000839 ** Enable TEMS Self-Describing Agent (SDA) processing:
000840 ** This is required if you are enabling the Self-Describing
000841 ** Agent (SDA) functionality in the z/OS TEMS and Agents:
000842 ** Note: By default, the TEMS KMS_SDA xKANPARU(KDSENV) parameter is
000843 ** initially disabled (KMS_SDA=N). Enabling SDA requires USS
000844 ** system preparation set-up tasks to create the USS file system.
000845 ** Review other required PARMGEN profile parameters to complete
000846 ** SDA enablement.
000847 ** Related PARMGEN CONFIG profile parameters:
000848 ** - GBL_HFS_JAVA_DIRn (typically in WCONFIG($GBL$USR))
000849 ** - GBL_DSN_SYS1_SBPXEXEC (typically in WCONFIG($GBL$USR))
000850 ** - RTE_USS_RTEDIR
000851 ** - RTE_USS_MKDIR_MODE
000852 ** - KDS_KMS_SDA_NO_GRANULAR (applicable to ITM6.3.0+ only)
000853 ** - KDS_TEMA_SDA
000854 ** - Kpp_AGT_TEMA_SDA (per Kpp Agent exploiting SDA)
000855 ** -----
KDS_KMS_SDA                N          * Enablement Parameter *
```

Figure 83: Enable the self-describing agent feature

Ensure that the related parameters are set appropriately. The related GBL\_ parameters are found in the WCONFIG(\$GBL\$USR) profile for further customization.

### Configuring auditing on a monitoring server

Auditing captures significant events occurring in your site's monitoring environment and records them in permanent storage for later retrieval and analysis. Each audit record fully describes some event that has changed the state of your monitoring environment: authorization and authentication failures (such as those that allow or disallow the execution of Take Action commands), and major and minor state changes (though they do not reflect the minor service messages stored in the RAS logs). You can configure the Tivoli Enterprise Monitoring Server running on z/OS to write audit records to the z/OS System Management Facility (SMF). This configuration enables you to use SMF to integrate OMEGAMON events with the event data recorded by other products and components that run on your z/OS system. You can extract OMEGAMON audit record data from SMF data sets (or from the archives of such data sets) for analysis of performance or resource utilization, and for validation of security events (authorization and authentication).

## About this task

Initially, the auditing function is turned off by default on all Tivoli Management Services nodes. In the RTE configuration profile, set the following parameters to control the audit function:

### KDS\_AUDIT\_TRACE

This parameter is used to enable or disable auditing collection in SMF and set the level of tracing. Message trace levels (from low to high) are X (Disabled), M (Minimum), B (Basic), and D (Detail). Higher levels imply all lower levels.

### KDS\_AUDIT\_MAX\_HIST

This parameter specifies the maximum number of entries kept in the in-memory cache for direct queries. Possible values are 10–1000.

### KDS\_AUDIT\_ITM\_DOMAIN

This parameter specifies an identifier that may be used to associate audit records. Possible value is a string of up to 32 characters.

For more information on auditing, see [Auditing](#) in the Planning section.

### Configuring event forwarding on a hub monitoring server

If you use either Netcool/OMNIbus or the Tivoli Enterprise Console, in addition to the Tivoli Enterprise Portal or the Enhanced 3270 user interface, to manage events in your enterprise, you can configure a hub monitoring server to forward situation events to these event servers for correlation and management. The hub monitoring server must be configured to enable forwarding and to specify the default destination server.

## About this task

Use the following parameters to configure event forwarding in the RTE configuration profile of a hub monitoring server:

### **KDS\_TEMS{EIF\_FLAG**

Determines whether or not event forwarding is enabled.

### **KDS\_TEMS{EIF\_HOST**

The fully qualified host name or dotted decimal IPV4 address of the primary event server and of up to seven backup event servers.

### **KDS\_TEMS{EIF\_PORT\_NUM**

The port number on which the Tivoli Enterprise Console® event server or OMNIBus EIF probe listens for events.

### **KDS\_TEMS{EIF\_EVENT\_LISTENER**

The type of event server: Tivoli Enterprise Console or Netcool/OMNIBus.

### **KDS\_TEMS{EIF\_DISABLE\_TEC\_EMITTER**

Disables emitter activities in workflow policies running on the Tivoli Enterprise Portal.

### **KDS\_X\_TEMS{EIF\_BFR\_EVT**

Determines whether or not events are buffered or stored when they cannot be sent to the event server.

### **KDS\_X\_TEMS{EIF\_BFR\_EVT\_PATH**

The full path name of the file in which forwarded events are stored.

### **KDS\_TEMS{EIF\_BUFFER\_EVENT\_MAXSIZE**

The maximum size, in KB, of the cache in which events are stored when they cannot be sent to the event server.

### **KDS\_X\_TEMS{EIF\_FLT\_ATTR1**

The name of an attribute in a statement that is used to filter events that are forwarded.

### **KDS\_X\_TEMS{EIF\_FLT\_CLASS1**

The name of the event class included in the filter statement.

### **KDS\_X\_TEMS{EIF\_FLT\_MODE**

Determines whether events that match the filter criteria statement are forwarded or discarded.

For more information about these parameters and their permissible values, see .

## What to do next

The following tasks must be completed outside the configuration software to implement situation event forwarding:

- The destination event server or servers must be configured to receive the events.
- A situation update forwarding process (the event synchronization component) must be installed on the event receivers.
- For situation events forwarded to the Tivoli Enterprise Console:
  - The .baroc files for the monitoring agents reporting to the hub must be installed and imported on the Tivoli Enterprise Console server, and the rule base must be updated.
  - If any distributed agents report either directly or indirectly (through a distributed remote monitoring server) to a z/OS® hub, map and resource files for each monitoring agent must be transferred from a hub monitoring server on a Windows®, Linux®, or UNIX® system to the RKANDATV library of the runtime environment that contains the hub monitoring server on z/OS®.
  - If z/OS® agents report to a z/OS® hub monitoring server in another CSI, their map files must be copied to the RKANDATV library of the runtime environment that contains the hub.

The section on “Integrating event management systems” in the *IBM Tivoli Monitoring: Installation and Setup Guide* provides detailed instructions for configuring the Tivoli Event Console and OMNIBus to receive forwarded events, including installing the event synchronization component and the .baroc files.

For more information on event forwarding, see [Event forwarding](#).

Enabling and configuring the SOAP server on a monitoring server

The Web Services Simple Object Access Protocol (SOAP) server is an application server plug-in that receives and sends XML data, and provides XML SOAP interfaces into the Tivoli Management Services components and the monitoring agents. The SOAP server is installed with each monitoring server and is enabled during configuration of the hub monitoring server. During configuration, you specify the list of non-local hub monitoring servers with which the local SOAP server can communicate.

## Before you begin

ICSF password encryption is required for SOAP Server. For more information on the SOAP server and SOAP server security, see [SOAP server](#).

**Note:** If you enable the SOAP server while configuring the hub, at least one of the communication protocols you specify must be either IP\*.PIPE or IP\*.UDP. The communication protocols for the SOAP server are automatically initialized to the protocol values set for the runtime environment.

## About this task

Use the following parameters to enable the SOAP server.

### **KDS\_TEMS\_SOAP\_SERVER\_FLAG**

This parameter determines whether to enable the Web Services Simple Object Access Protocol (SOAP) server. The default is Y.

### **KDS\_TEMS\_HTTP\_PORT\_NUM**

This parameter contains the HTTP port number for communications with the SOAP server. The default is 1920.

For a hub monitoring server, SOAP server configuration creates a KSHXHUBS member in the *rhilev.rte.RKANPARU* library. The KSHXHUBS member contains a table of hub monitoring servers, an aliasing mechanism for identifying the hub monitoring servers with which the local SOAP server can communicate. Use the following parameters to create the table:

### **KDS\_PH**

Table BEGIN and END delimiter.

### **KDS\_PH01\_ROW**

First row delimiter.

### **KDS\_PH01\_TEMS\_RTE**

This parameter contains the name of the runtime environment where the hub is configured.

### **KDS\_PH01\_TEMS\_COMM\_PROTOCOL1**

This parameter contains the communication protocol to be used by the SOAP server.

### **KDS\_PH01\_TEMS\_TCP\_HOST**

If this is a high-availability hub, this parameter must be set to the DVIPA.

### **KDS\_PH01\_TEMS\_TCP\_PORT\_NUM**

This parameter defines the TCP port number of the SOAP server.

### **KDS\_PH01\_TEMS\_VTAM\_NETID**

This parameter defines the VTAM® network identifier for the SOAP server.

### **KDS\_PH01\_TEMS\_VTAM\_APPL\_GLB\_BKR**

This parameter defines the VTAM® applid for the global location broker of the SOAP server.

### **KDS\_PH01\_TEMS\_VTAM\_LU62\_DLOGMOD**

This parameter defines the LU6.2 logmode entry required by the SOAP server for SNA communication.

### **KDS\_PH01\_TEMS\_ALIAS\_NAME**

This parameter contains the monitoring server name (node ID) that identifies a non-local hub monitoring server to the SOAP server. For best results, accept the default name.

### **KDS\_PH01\_TEMS\_USER\_QUERY**

This parameter defines the user ID with query access to the SOAP server.

#### **KDS\_PH01\_TEMS\_SYSV\_FLAG**

This parameter determines whether system variables are to be enabled for the SOAP server.

#### **KDS\_PH01\_TEMS\_KSH\_SECURE**

This parameter defines the security status of the SOAP server.

To create the access list for the SOAP server, use the following parameters:

#### **KDS\_PU**

Table BEGIN and END delimiter.

#### **KDS\_PU01\_ROW**

First row delimiter.

#### **KDS\_PU01\_TEMS\_USER\_ID**

This parameter contains the user ID defined to have access to the SOAP server.

#### **KDS\_PU01\_TEMS\_USER\_QUERY**

This parameter determines query access of a user ID to the SOAP server.

#### **KDS\_PU01\_TEMS\_USER\_UPDATE**

This parameter determines update access of a user ID to the SOAP server.

#### **KDS\_PU**

Table END delimiter.

For more information about SOAP server security, see [SOAP server configuration and security](#). For more information about the parameters, see [Tivoli Enterprise Monitoring Server \(KDS\) parameters](#).

Enabling the validation of TEP user IDs and passwords in Hub TEMS

If your z/OS TEMS is the SOAP Server and you want to secure the TEMS, set the parameter

**KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** value to Y to enable the authentication of Tivoli Enterprise Portal user IDs and passwords.

### **About this task**

The parameter **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** determines whether the hub monitoring server validates the user IDs and passwords of users signing on to the Tivoli Enterprise Portal.

**Note:** The PARMGEN PTF UA91952 (2Q17) changed the default value of this parameter from N to Y, which means the validation is enabled by default for the RTEs that are created after you apply this PTF. However, for the RTEs that were created before you apply this PTF, the following steps are required if you need the TEMS security requirement.

### **Procedure**

1. In the RTE's LPAR-specific configuration profile, set the value of the parameter **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** to Y.
2. Resubmit the WCONFIG(\$PARSEPR) job to refresh the KDSENV member in the PARMGEN WKANPARU staging dataset.
3. Resubmit the WKANSAMU(KCIJPW2R) job to refresh the KDSENV member from the WKANPARU staging dataset to the product execution RKANPARU user dataset that is read by the z/OS TEMS started task.
4. Recycle the z/OS TEMS started task when it's ready to deploy the change.

### **Result**

The validation of users is enabled to access to z/OS TEMS.

## Configure the OMEGAMON® enhanced 3270 user interface

If you want to use the OMEGAMON enhanced 3270 user interface, you must configure at least one instance in each sysplex. The parameters that affect this component use the prefix KOB in the configuration profile. Default values are supplied for all KOB parameters, so the interface is configured in every runtime environment unless you explicitly exclude it from configuration. However, you can customize the parameters to meet site requirements.

### Before you begin

The enhanced 3270 user interface uses BPXmmm services for TCP/IP communications. BPXmmm services are a part of z/OS® UNIX® System Services, so a user ID for the enhanced 3270 user interface started task must be defined with an OMVS segment (see [“Create a z/OS UNIX System Services ID for the address space”](#) on page 575).

### About this task

You can set site-specific values for the started task name for the interface address space, VTAM applid, and VTAM node.

You can also configure security for enhanced 3270 interface. Authentication and authorization for users of the enhanced 3270 user interface is provided using the interface. Security for the enhanced 3270 user interface is configured by specifying the name of a system authorization facility (SAF) general resource class for the RTE\_SECURITY\_CLASS parameter. However, you should not enable security until you have completed and verified configuration of the runtime environments that the interface will serve. For more information, see [“Enable security for the OMEGAMON enhanced 3270 user interface”](#) on page 564

Complete the following steps to configure the OMEGAMON® enhanced 3270 user interface as part of this runtime environment.

### Procedure

- Find the KOB\$ section and update the parameters as needed. [“Figure: Configure an OMEGAMON® enhanced 3270 user interface”](#) on page 466 shows an example of this section.

```
EDIT          TDITN.&userid.DEMO.WCONFIG(DEMO) - 01.02      Columns 00001 00072
Command ==>                                         Scroll ==> CSR
001153 * PARAMETER NAME USAGE FOR COMPONENTS:
001154 *   1. KOB$/KOB_* for OMEGAMON e3270UI
001155 * *****
001156 KOB$      BEGIN *----- OMEGAMON ENHANCED 3270 USER INTERFACE -----*
001157 ** =====
001158 ** PARMGEN CONFIG Parameter          PARMGEN CONFIG Value
001159 ** =====
001160
001161 ** Tivoli OMEGAMON Enhanced 3270 UI started task options:
001162 ** Note: You only need to configure one OMEGAMON Enhanced 3270 User
001163 **       Interface address space in a Sysplex. Post-configuration, a
001164 **       CUASITE member in both the RTE's UKOBDATF and RKANPARU
001165 **       libraries may need to be created. Please refer to the
001166 **       interface profile and threshold discussions in the Enhanced
001167 **       3270 Interface Guide publication for more information.
001168 ** Related PARMGEN CONFIG profile parameters:
001169 **       - KDS_TEMS_DRA_FLAG
001170 **       - RTE_SECURITY_CLASS
001171 KOB_TOM_STC          IBMTOM
001172 KOB_TOM_VTAM_NODE   CTDOBN
001173 KOB_TOM_VTAM_APPL_LOGON  CTDOBAP
001174
001175 KOB$      END   *----- OMEGAMON ENHANCED 3270 USER INTERFACE -----*
001176
001177 * *****
```

Figure 84: Configure an OMEGAMON® enhanced 3270 user interface

where:

**KOB\_TOM\_STC**

Is the name of the started task for the enhanced 3270 user interface (by default, IBMTOM).

**KOB\_TOM\_VTAM\_NODE**

Is the name used to build the VTAM node entry for the OMEGAMON enhanced 3270 user interface (by default, CTDOBN).

### KOB\_TOM\_VTAM\_APPL\_LOGON

Is the name used to build the VTAM logon APPLID for the enhanced 3270 user interface (by default, CTDOBN).

See the [Enhanced 3270 user interface \(KOB\) parameters](#)

- To enable security, specify a value for RTE\_SECURITY\_CLASS. This parameter specifies the SAF security class to be used for log-on, query, Take Action, and interface actions. However, you might not want to enable security until you have verified that all components have been successfully configured and started. If you want to enable security after you have completed configuration of the runtime environment, edit the RTE configuration file to specify the RTE\_SECURITY\_CLASS. Then follow the instructions in [Scenario RTE03: Changing parameters in an RTE](#) to refresh the environment. If more granular security is required, you can override the RTE\_SECURITY\_CLASS parameter for logon, queries, and Take Action commands. For more information, see [“Enable security for the OMEGAMON enhanced 3270 user interface”](#) on page 564.

## What to do next

A security administrator must define the system authorization facility (SAF) general resource class if it does not already exist and define profiles to control access to the interface, to control access to the data queries issued by the interface, and to control actions performed by the interface. Users or user groups must be given access to the profiles. [“Enable security for the OMEGAMON enhanced 3270 user interface”](#) on page 564 for more information.

## Configure OMEGAMON® monitoring agents and other components

Before completing all the updates to the PARMGEN profile, review and update, if needed, all parameters specific to the various OMEGAMON® monitoring agents and any other components that are configured within this runtime environment. Component-specific parameters are prefixed with *Kpp* (where *pp* identifies the individual product).

## About this task

See [Product codes](#) for a full list of product codes. Review the product-specific *Planning and Configuration Guide* and *Parameter Reference* for information on requirements or values required for a specific product. At a minimum, you must configure the following parameters.

- If OMEGAMON® AI for Db2 is configured:
  - KD2\_DBnn\_DB2\_SSID
  - KD2\_DBnn\_DB2\_VER
- If OMEGAMON for IMS on z/OS is configured:
  - For each subsystem, uncomment the following block of parameters.

```
KI2_I1                BEGIN                * Table begin *
KI2_I101_ROW          01
KI2_I101_CLASSIC_XMIT 00
KI2_I101_CLASSIC_IMSID IMSA * Not eligible for symbolics *
KI2_I101_CLASSIC_STC   XXXOI0
KI2_I101_CLASSIC_IMS_RESLIB DFS.V12R0M0.SDFSRESL
KI2_I101_CLASSIC_MPREFIX M0
KI2_I101_CLASSIC_VTAM_NODE XXX&SYSCONE.OI0N
KI2_I101_CLASSIC_VTAM_APPL_LOGON XXX&SYSCONE.OI0
KI2_I101_CLASSIC_LROWS 255
KI2_I101_CLASSIC_USER_PROFILE /C
KI2_I101_CLASSIC_CTRL_UNIT_ADDR XXXX
KI2_I1                END                * Table end *
```

- At a minimum, customize the following two parameters:
  - KI2\_I101\_CLASSIC\_IMSID
  - KI2\_I101\_CLASSIC\_IMS\_RESLIB
- If OMEGAMON for Networks is configured in the RTE, for each monitored TCP/IP stack customize the following parameters:

- KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN
- KN3\_TCPXnn\_TCPIP\_PROFILES\_MBR

## Customizing the global configuration profile

After all the settings in the RTE configuration profile have been updated, the next step is to review and customize the global parameters that will be used by this runtime environment (RTE). This step is required if you have not cloned the \$GBL\$USR profile from another runtime environment.

### About this task

The WCONFIG(\$GBL\$USR) member contains the parameters that define the global system libraries to be used by all components. All global parameters are prefixed GBL\_. Review these parameters to determine whether the default values must be customized for this environment.

The following are the key parameters to check:

- Common system library values

```
GBL_DSN_SYS1_PARMLIB
GBL_DSN_SYS1_PROCLIB
GBL_DSN_SYS1_VTAMLIB
GBL_DSN_SYS1_VTAMLST
```

- ICSF system library

If you are enabling password encryption (KAES256) across the enterprise, you must set the value for the ICSF system library:

```
GBL_DSN_CSF_SCSFMODE0
```

- z/OS® UNIX® System Services Java™ directory

If any of the components that you are configuring within this RTE require Java™ support or if you are planning to enable the self-describing agent feature, a valid path to a Java™ installation on HFS or zFS must be specified. Note that /bin is automatically appended:

```
GBL_HFS_JAVA_DIR1
```

Also, if you are enabling the self-describing agent feature or any other function that uses z/OS®, check the value of the CLIST/EXEC library name. This EXEC library is used during the creation of z/OS UNIX directories running on either the Hierarchical File System (HFS) or on the zSeries File System (zFS):

```
GBL_DSN_SYS1_SBPXEXEC
```

If a monitoring server is using any of the IP.UDP-related or IP.PIPE-related communication protocols for connection, but the IP domain name resolution is not fully configured on the z/OS® system, the SYSTCPD statement must be supported by the monitoring server and all monitoring agents that report to it. SYSTCPD explicitly identifies which data set to use to obtain the parameters defined by TCPIP.DATA when no GLOBALTCPIPDATA statement is configured. To support SYSTCPD, uncomment and set the following parameter:

```
GBL_DSN_TCP_SYSTCPD_TCPDATA
```

The name of the SYSTCPD data set is installation-specific. Get the correct specification from your network administrator.

At a minimum, customize the following parameters for the specific products.

- If OMEGAMON® AI for Db2 is configured in the RTE:
  - Uncomment and customize the following parameters as applicable to your Db2® environment:
    - \*GBL\_DSN\_DB2\_SDSNLOAD
    - \*GBL\_DSN\_DB2\_LOADLIB\_V11
    - \*GBL\_DSN\_DB2\_LOADLIB\_V12
    - \*GBL\_DSN\_DB2\_RUNLIB\_V11
    - \*GBL\_DSN\_DB2\_RUNLIB\_V12

- \*GBL\_DSN\_DB2\_DSNEXT
- If OMEGAMON® for CICS® TG is configured, uncomment and customize the following parameter:
  - \*GBL\_DSN\_CICS\_CTG\_DLL
- If OMEGAMON® for IMS™ on z/OS® is configured, uncomment and customize the following parameter:
  - \*GBL\_DSN\_IMS\_RESLIB
- If OMEGAMON® for Messaging on z/OS® is configured, uncomment and customize the following parameters:
  - \*GBL\_DSN\_WMQ\_SCSQANLE
  - \*GBL\_DSN\_WMQ\_SCSQAUTH
  - \*GBL\_DSN\_WMQ\_SCSQLOAD

## Procedure

1. To edit the \$GBL\$USR member, select option 2 from the **Customize PARMGEN Configuration Profile Members** panel.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

    *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
    *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
    *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
        global library (TDITN.IDTST.PARMGEN.JCL).
        Add/Modify system/user-defined symbols and their
        resolution values, for override variables used as parameter
        values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
    4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

    5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
    6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
    7. $SYSIN $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.

```

The WCONFIG(\$GBL\$USR) member is displayed.

2. Review and update the parameter values as appropriate.
3. After you make all the required changes, save the changes and return to the **Customize PARMGEN Configuration Profile Members** panel.

## What to do next

If necessary, customize the %GBL\_USER\_JCL%(RTE\_NAME%) variables configuration file and any necessary embed files. Then, return to the main Workflow menu and create the runtime members and jobs.

## Customizing the variables profile

If support for variables is enabled and you are using user-defined variables, you must customize the variables profile, %GBL\_USER\_JCL%(RTE\_NAME%), to define those variables and their resolution values. If you are using IBM-provided models for RTEs that support variables, you must customize the resolution values for any symbolics used in the model if those values differ from the IBM defaults.

## About this task

The variables profile must be customized under the following conditions:

- For Type 1 and 2 symbolics, if you are using any of the IBM-provided predefined symbolics, and the resolution values for those symbolics cannot be automatically discovered in IEASYM or the system IPL PARMLIB data sets, you must provide those resolution values.
- For any Type 3 symbolics, you must provide both the symbolics and the resolutions values. You can use the IBM-provided "best practice" user symbolics, but you must provide the site specific resolution values for those symbolics.
- If you are not configuring the RTE on the target system, and there are resolution values that cannot be automatically discovered on the target system, you must provide those values, such as overrides for &SYSNAME. or &SYSCLONE..

Regardless of the type of symbolic, any symbolics that appear in started task procedures must follow MVS rules. In the RTE profile, the following parameters are the ones whose symbolic values appear in started tasks:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, the symbolics for the following parameters appear in started tasks:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

**Tip:** You can run the \$PARSEDV job in WCONFIG to get a list of all the variables you can use on this system. The output report is called \$SYSVAR1 and it is also found in the RTE WCONFIG data set. You can invoke the job from the Utilities panel. Enter UTIL on the command line of any Workflow panel and select option 22.

**Note:** Variables cannot be used with a small subset of parameters. See [Parameters ineligible to use variables](#) in the Reference section for more information.

## Procedure

1. To edit the variables profile, select option 3 on the **Customize PARMGEN Configuration Profile Members** panel.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

    *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
    *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
    *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
        global library (TDITN.IDTST.PARMGEN.JCL).
        Add/Modify system/user-defined symbols and their
        resolution values, for override variables used as parameter
        values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
    4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

    5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
    6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
    7. $SYSIN $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.

```

The system variables profile is displayed.

2. Provide values for any user-defined variables, any variables that differ from the IBM-provided defaults, and any variables whose values cannot be automatically discovered from the system IPL PARM data set.
3. Press F3 to save the changes in the profile, then press F3 to return to the main Workflow panel.

## What to do next

Customize the embed files as necessary, then create the runtime members and jobs.

## Customizing the override embed members

Override embeds provide a permanent way to support special customizations. Embed override files can be used to add user-defined parameters that might be overwritten when maintenance or upgrades are performed if they were added to the configuration profiles.

## About this task

To customize override embed members, select option **4** on the **Customize PARMGEN Configuration Profile Members** panel. (You can also enter UTIL on the command line of any Workflow panel, then select option 7 to access the WCONFIG library.)

[“Override embeds” on page 471](#) lists some override embeds, the library in which the affected members are located, and the purpose of the embed member.

You can find a complete list of override embeds by reviewing the \$JOBINDX README. The \$JOBINDX is available in the RTE's **WCONFIG** dataset which is refreshed each time when one of the following maintenance scenarios is performed:

- SMPE02
- SMPE03
- SMPE04
- SMPE05
- SMPE06

For more information about the maintenance scenarios, see [SMP/E maintenance and upgrade scenarios](#).

This table lists the override embeds, the library in which the affected members are located, and the purpose of the embed member.

Table 57: Override embeds		
Embed member	Library	Purpose
Kpp\$CSTR	xKANCMDU	Product-specific override embed in Tivoli® Enterprise Monitoring Server xKANCMDU(KDSSSTR1), Agent xKANCMDU(KppAGST) and CUA-specific startup runtime members. (CUA names vary by OMEGAMON® product.) (where x = I, W, R)
KMQ\$CSTn *	xKANCMDU	OMEGAMON® for Messaging (MQ Monitoring component only) override embed for xKANCMDU(KMQSTART) startup runtime member. *(where n = 1 – 5)
KMQ\$CUSR	xKANCMDU	OMEGAMON for Messaging (MQ Monitoring component only) override embed for xKANCMDU(KMQUSER) startup runtime member.
KAG\$PENV	xKANPARU	Common Agent override embed in all standalone Agents' xKANPARU(KppENV) runtime member.
Kpp\$PENV	xKANPARU	Product-specific override embed in Tivoli Enterprise Monitoring Server xKANPARU(KDSENV), Agent xKANPARU(KppENV) and applicable CUA xKANPARU(KppENV) runtime members.
Kpp\$PSYS	xKANPARU	Product-specific override embed in Tivoli Enterprise Monitoring Server's and Agents' xKANPARU(KppSYSIN) and CUA-specific runtime members. (CUA names vary by OMEGAMON product)
KDS\$PTEC	xKANPARU	Tivoli Enterprise Monitoring Server override embed in xKANPARU(KMSOMTEC) Event Integration Facility (EIF) runtime member.
KD2\$PCPT	xKD2PAR	OMEGAMON for Db2 override embed that is appended to the xKD2PAR(COPTxxxx) members.
KD2\$POMD	xKD2PAR	OMEGAMON for Db2 override embed for xKD2PAR(OMPE&dbid) OMEGAMON Server private parameter file.
KD2\$POMP	xKD2PAR	OMEGAMON for Db2 override embed for xKD2PAR(OMPE00) OMPE subsystem initialization runtime member.
KD2\$POPT	xKD2PAR	OMEGAMON for Db2 override embed for xKD2PAR(OMPEOPTS) OMPE Collector Realtime Customer Options runtime member (1 of 2).
KD2\$POP1	xKD2PAR	OMEGAMON for Db2 override embed for xKD2PAR(OMPEOPTS) OMPE Collector Realtime Customer Options runtime member (2 of 2).
KEP\$PESD	xKANPARU	OMEGAMON for z/OS override embed for xKANPARU(KEPESD) Epilog runtime member.
KEP\$POPT	xKANPARU	OMEGAMON for z/OS override embed for xKANPARU(KEPOPTN) Epilog runtime member.
KI2\$PTRF	xKANPARU	OMEGAMON for IMS override embed for xKANPARU(KI2ATFmp) TRF runtime member (where mp = MPREFIX; one per IMS subsystem configured in the RTE).
KOI\$PJLF	xKANPARU	OMEGAMON for IMS override embed for xKANPARU(KOIJLF00) Journal Logging Facility (JLF) runtime member.
KM5\$PDEV	xKANPARU	OMEGAMON for z/OS override embed for xKANPARU(KOSDEVIN) DASD Device runtime member.
KDF\$PDEV	xKANPARU	OMEGAMON for Storage override embed for xKANPARU(KDFDEVIN) DASD Device runtime member.
KDF\$PDVS	xKANPARU	OMEGAMON for Storage override embed for xKANPARU(KDFDEVSU) DASD Device runtime member.
KDF\$PHSN	xKANPARU	OMEGAMON for Storage override embed for xKANPARU(KDFDHSIN) HSM monitoring and log analysis (LOGY) options runtime member.
KAG\$SST1	xKANSAMU	Common Agent STEPLIB DD override in all Agents' started tasks.
KAG\$SST2	xKANSAMU	Common Agent RKANMODL DD override in all Agents' started tasks.
KAG\$SST3	xKANSAMU	Common Agent additional DD override in all Agents' started tasks (for example, add SYSMDUMP DD, etc. in each of the Agent started tasks [default xKANSAMU(IBMpp)]).

Embed member	Library	Purpose
Kpp\$SST1	xKANSAMU	Product-specific STEPLIB DD override in the product started task.
Kpp\$SST2	xKANSAMU	Product-specific RKANMODL DD override in product started task.
Kpp\$SST3	xKANSAMU	Product-specific additional DD override in product started tasks (for example, add SYSMDUMP DD, etc. in the product started task [default xKANSAMU(IBMpp)]).
Kpp\$SDLn	xKANSAMU	Product-specific imbeds to the xKANSAMU(KppDFINL) post-configuration README steps for autodiscovered subsystems by the PARMGEN KCIJPDLA z/OS DLA job (for example, KJJ\$SDLn imbeds for KJJDFINL for autodiscovered JVMs directories where the OMEGAMON for JVM agent options are added for detailed monitoring).
KI2\$SSCn **	xKANSAMU	OMEGAMON for IMS KOICTXX module statement input to the KCIJPSEC/KOISUPD Classic command table security jobs for OMEGAMON for IMS **where n = 1 – 2.
KCI\$SST1	xKANSAMU	Common accounting imbed for adding information about the started tasks, such as owner, type of task, type of LPAR. This embed is originally populated with job card information.
KJT\$PPRP	xKANPARU	KJTCOLL override in Agent's xKANPARU(KJTTPR00) common collector property file of the OMEGAMON for JVM Agent.

Placeholder parameters are provided in the embed files. You can uncomment and customize the values for these parameters or add your own.

For example, you might want to change the refresh rate of the OMEGAMON Enhanced 3270 user interface local registry. This registry stores information about OMEGAMON agent data sources. By default, the registry information is refreshed every 5 minutes. You can change the refresh rate temporarily by using the MVS MODIFY command, or you can change it permanently by using the **REGREF** parameter in the KOB\$PENV embed.

In the KDS\$PENV file, one set of place holder parameters points to user variable symbols that are already defined in the variables configuration profile in the %GBL\_USER\_JCL%(%RTE\_NAME%) PARMGEN global library: **KDS\_HEAP\_SIZE=&KDS\_HEAP\_SIZE .**, **KGL\_GMMSTORE=&KGL\_GMMSTORE .**, and **KDS\_NCSLISTEN=&KDS\_NCSLISTEN**. If you use these parameters, edit the variables profile to set the appropriate resolution values.

```

000049 ** *****
000050 KDS_HEAP_SIZE=1024
000051 *KDS_HEAP_SIZE=&KDS_HEAP_SIZE.
000052 KGL_GMMSTORE=1024
000053 *KGL_GMMSTORE=&KGL_GMMSTORE.
000054 KDS_NCSLISTEN=256
000055 *KDS_NCSLISTEN=&KDS_NCSLISTEN.
000056 ** *****
000057 ** Additional common Agent parameters:
000058 ** *****
000059 *CTIRA_HEARTBEAT=5
000060 *CTIRA_RECONNECT_WAIT=600
000061 *CTIRA_PRIMARY_FALLBACK_INTERVAL=1500
000062 *CTIRA_HOSTNAME="%RTE_NAME%:CMS"
000063 *CTIRA_SUBSYSTEM_ID=&subsystem
000064 *TEMA_SDA_ACK_WAIT=300
000065 *TEMA_SDA_RETRY_WAIT=300
000066 *TEMA_SDA_MAX_ATTEMPT=1
000067 *KDEB_INTERFACELIST_IPV6=-
000068 * ----- END - USER SECTION: OVERRIDE ----- *

```

Figure 85: KDS\$PENV override file

This figure show the user section of the KDS\$PENV override file.

## What to do next

The next step is to create the RTE members and jobs.

## Creating the runtime environment members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job (or \$PARSESV if variable support is enabled). This job generates a set of jobs that extract the profile parameter values specified during set up and in the configuration profiles. The jobs then generate the runtime environment (RTE) members and jobs required to complete the creation of the RTE.

### About this task

The composite \$PARSE/\$PARSESV job processes the PARMGEN templates from the interim (IK\*) staging libraries into the corresponding work (WK\*) output libraries. The job performs the string substitutions and embeds required by the user overrides in the PARMGEN configuration profile member. Part of this job's function is to create runtime members and file-tailored jobs in the work output libraries. After completion of the \$PARSE\* job, you have a complete set of customized runtime members in the work output libraries (WKANCMDU, WKANPARU, WKANSAMU (additionally, WKD2PAR, WKD2PRF, and WKD2SAM if OMEGAMON® AI for Db2 is configured in this RTE).

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
   reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
   WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
If you want to create (or recreate) only certain runtime members, press F5 for a menu of the individual jobs submitted by the composite job.

**Tip:** Note that the library-specific \$PARSE%% jobs regenerate the runtime members in the PARMGEN work libraries (such as WKANPARU and WKANCMDU, and so on) because PARMGEN supports a staged deployment and does not update the running production user libraries and execution libraries (such as RKANPARU and RKANCMDU). You must then run the WKANSAMU(KCIJPW2R) job to deploy runtime members from the WK\* libraries to the RK\* production user libraries. However, if you want to update the production user libraries directly, without having to run KCIJPW2R, update the SYSUT2 DD to point to RK\* instead of the WK\* PARMGEN work libraries.

To view a list of all the variables (symbolics) used in the RTE, select option 2.

### Result

The runtime members and jobs are created.

### What to do next

Submit the jobs to complete the set up of the RTE.

## Completing the setup of the runtime environment

To complete the setup of the runtime environment using the Parameter Generator configuration software, you submit the batch jobs created by the \$PARSE job in the previous step. These jobs allocate the runtime libraries, copy members from the target libraries to the runtime libraries, run required security jobs, and the like, using the values you supplied during the configuration process. You will have to complete additional tasks outside of the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.
```

Description	Job/Label	Status	Date
1. Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2. Customize PARMGEN configuration profiles.	SYSA		
3. Create this RTE's runtime members and jobs.	\$PARSE	Enter 3 for details.	
4. Submit batch jobs to complete PARMGEN setup.	SUBMIT	Enter 4 for details.	
5. Perform post configuration steps.	POSTCFG		
R Create next RTE - Reset fields.	New RTE		

Press F1=Help for more information. Type U or UTIL to access utility menu.

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.
```

Description	REQ	Job Name	Status	Date
1. Composite SUBMIT job (See JCL comments) ** OR **		KCIJPSUB		More: +
2. Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3. Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4. Run product security steps	(Yes)	KCIJPSEC		
5. Update variable-named runtime mbrs	(No )	KCIJPUPV		
6. (Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7. Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8. Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9. Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10. Verify the configuration jobs	(Tip)	KCIJPIVP		
11. Back-up RK* product execution user libs (Tip)		KCIJPCPR		
12. Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Choose one of the following approaches.
  - To submit the full set of actions within a single job, choose option 1.
  - To submit each action individually in turn, choose options 2 through 12, as required.

Note that some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE

may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization. If you decide to submit all the jobs automatically, submit the composite KCIJPSUB job. Otherwise, submit the jobs individually.

### **KCIJPALO**

This required job allocates the RK\* runtime libraries for all the products and components in the runtime environment.

### **KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

The job also deletes any runtime members from the different libraries based on the product versions' FMID requirements if, for example, the latest version of the product removes or renames any SMP/E elements. If any of the libraries listed in the DELRUN DDNAME is part of the system link libraries, or the library may be in use, the KCIJcLOD RTE load job may not be able to delete these elements if the libraries are enqueued. If either of these situations is true, run the BUILDDEX/DELRUN step when those libraries are available.

### **KCIJPSEC**

This job is required if the product-specific IBM®-supplied security exit or input must be customized. The job creates security-related members (load modules, encryption key, and other elements) based on the product security requirements.

Review the *KppSUPDI* "Modify Classic command table" security steps. The *KppJPSCO* input members to the composite KCIJPSEC security job point SYSIN DD to your security exit library (RTE\_X\_SECURITY\_EXIT LIB). Also see the RTE\_X\_SECURITY\_EXIT\_LIB parameter in the RTE profile.

### **KCIJPUSP**

This job is required if you are configuring at least one product that requires z/OS UNIX. The job creates the z/OS UNIX-related members in the RKANDATV runtime library for use in the composite KCIJPUSS job.

**Tip:** This job is required if you enabled the self-describing agent feature.

### **KCIJPUSS**

This job is required if you are configuring at least one product that requires z/OS UNIX. The job creates the Hierarchical File System (HFS) or the zSeries File System (zFS) directories and subdirectories, and copies files to HFS or zFS.

**Tip:** This job is required if you enabled the self-describing agent feature.

### **KCIJPSYS**

This job copies the product started tasks and VTAM major node members for the products and components into system libraries, and assembles and links product modules into system libraries. The job requires write access to system libraries.

### **KCIJPLNK**

The job assembles and links elements into the SYSLMOD RKANMOD\* load library.

### **KCIJPUPV**

If system variables are enabled (RTE\_SYSV\_SYSVAR\_FLAG = Y), this job must be submitted in the target LPAR where the symbolics are resolved. This job populates variable-named members contained in the application-specific *KppJPUPB* composite IEBUPDTE members in the WK\* work output libraries. See the KCIP@SUB help panels for more information.

### **KCIJPCPR**

This job clones the existing production runtime user libraries (RK\*).

## KCIJPW2R/KCIJPW1R

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you do not run this job, you must copy the work output libraries to the runtime libraries by some other method, following your normal change control process. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. Users must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

3. On completion of these jobs, review the output of the KCIJPIVP configuration verification job:
  - a. Review the \$IVPRPT report.

This report is stored in the WCONFIG library. The report shows the results of each KCIJP\* job that was run to configure the runtime environment. In the following example, the report shows that the KCIJPLOD job had an ABEND E37 out-of-space condition in one or more of the libraries loaded by the job:

JOB	STATUS	JOBNAME	JOB#	DATE	TIME	HI-CC
KCIJPCFG	OK	CCAPI\$JP	J29242	10.056	22:46:42	00000
KCIJPUP1	OK	CCAPI\$JP	J29243	10.056	22:48:09	00000
KCIJPCNV	OK	CCAPI\$JP	J28705	10.056	13:33:21	00000
\$PARSE	OK	CCAPI\$JP	J29248	10.057	00:33:44	00000
KCIJPUP2	OK	CCAPI\$JP	J06969	10.057	03:21:59	00000
KCIJPALO	WARNING	CCAPI\$JP	J07021	10.057	03:46:46	00002
KCIJPLOD	ERROR	CCAPI\$JP	J06973	10.057	03:26:14	SE37

- b. Review the WSUPERC SYSTSPRT report, which is stored in the WSUPERC sequential library. This report compares the PARMGEN WK\* work output libraries with the production RK\* runtime libraries. The PARMGEN WK\* work output libraries are the data sets created and populated by the \$PARSE job.  
In the following example, two files in the new WKANCMDU data set do not have equivalents in the existing RKANCMDU data set:

```
48 TOTAL MEMBER(S) PROCESSED AS A PDS
1 TOTAL MEMBER(S) PROCESSED HAD CHANGES
47 TOTAL MEMBER(S) PROCESSED HAD NO CHANGES
2 TOTAL NEW FILE MEMBER(S) NOT PAIRED
0 TOTAL OLD FILE MEMBER(S) NOT PAIRED
1 ISRSUPC - MVS/PDF FILE/LINE/WORD/BYTE/SFOR COMPARE UTILITY- ISPF
NEW: &rhilev.&rte.WKANCMDU      OLD: &rhilev.&rte..RKANCMDU
                                MEMBER SUMMARY LISTING (LINE COMPARE)
NON-PAIRED NEW FILE MEMBERS | NON-PAIRED OLD FILE MEMBERS
    KC20PS01                 |
    KC2STA01                 |
```

- c. Correct any errors and rerun any jobs that did not complete successfully. Resubmit the KCIJPIVP job whenever the work output libraries change (for example, after applying maintenance and rerunning the \$PARSE or \$PARSEV job). You can submit the job by typing UTIL on the command line of any Workflow panel, then selecting Validate PARMGEN profile parameters.

## Result

The runtime environment DEMO is created.

## What to do next

Complete any configuration required outside of the configuration software. To see the required steps, return to the Workflow - Primary Option Menu and select **Perform post configuration steps**. This option displays a set of readme files that describe the additional configuration steps that must be taken for the components and products that are configured in this RTE. For additional information, see [Completing the configuration outside the configuration software](#) and the *Planning and Configuration Guide* for each of the configured products.

## Replicating configured runtime environments

After you configure one or more runtime environments, you can clone them to other LPARs. Cloning runtime environments allows you to replicate environments with considerably less customization.

There are seven main steps that are involved in cloning a runtime environment:

1. Set up PARMGEN work environment for the runtime environment.
2. Clone customized WCONFIG members to the WCONFIG library of the new runtime environment.
3. Update interim libraries and create configuration profiles.
4. Merge the configuration profile parameter values from the model runtime environment into the new runtime environment.
5. Customize the configuration profiles.
6. Create the runtime environment members and jobs (\$PARSE/\$PARSESV).
7. Submit batch jobs to complete PARMGEN setup.

Steps 2, 3, and 4 are performed automatically by the configuration software. The location where these steps are performed depends upon which transport scenario you are using to replicate the environment to another LPAR.

To clone an existing RTE, you specify the fully-qualified name of the profile for that RTE as the model profile on the first panel when you set up the work environment (see [“Figure: Specifying the fully qualified name of the RTE profile that is being cloned” on page 478](#)).

```

KCIPQPG1 ---- SET UP PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode

Specify the RTE model profile to use:
==> &hlq.&rte.WCONFIG(&clone_from) -----
- To create an RTE from scratch, leave this field blank.
- To create an RTE based on a predefined IBM model, type a ? in the
  field and press Enter, then select the appropriate template.
- To create an RTE that is a clone of an existing PARMGEN RTE, specify
  the WCONFIG profile library and RTE member name to clone;
  for example: &hlq.&rte.WCONFIG(&clone_from)
  - To create an RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: &hlq.ICAT.INSTJOBS(DEMO)
  - To reconfigure or upgrade this existing RTE, specify its values;
  for example: (TDITN.IDTST.DEMO.WCONFIG(DEMO))

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

Enter Jobcard data:
==> //SSABSA JOB (IDD),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** RTE_NAME=%RTE_NAME%-----
==> /*** SYSJOBNAME=%SYSJOBNAME% SYSTEMBER=%SYSTEMBER%-----

F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

```

Figure 86: Specifying the fully qualified name of the RTE profile that is being cloned

In the RTE configuration profile of the new RTE you might need to change some or all of the following parameters, depending upon the configuration of the RTE you are cloning.

- If you are replicating runtime environments that share base libraries, to avoid loading the libraries multiple times, designate one environment to load the base libraries by leaving **RTE\_LOAD\_SHARED\_LIBS=Y** for that environment only, and disable loading of base libraries in all the other RTEs (**RTE\_LOAD\_SHARED\_LIBS=N**).
- If you are changing a hub monitoring server to a remote, change **KDS\_TEMS\_TYPE=HUB** to **KDS\_TEMS\_TYPE=REMOTE**.
- If you are cloning an RTE that contains a hub monitoring server and changing a hub to a remote, configure the remote to connect to the hub.

### **KDS\_TEMS\_COMM\_PROTOCOLn**

At least one of the communication protocols must be the same as a protocol selected for the hub. For information about the communication protocols, see [Decision 6: How to set up communications between components](#).

### **KDS\_TEMS\_TCP\_HOST**

This value is the TCP/IP host name (in IPV4 dotted decimal format) of the z/OS® system where the remote monitoring server is installed.

### **KDS\_HUB\_TCP\_HOST**

This value is the TCP/IP host name (in IPV4 dotted decimal format) of the distributed system where the hub monitoring server is installed.

### **KDS\_HUB\_TCP\_pipe\_type\_PORT\_NUM**

The value must be the port number of the hub for each protocol selected.

- If you are cloning an RTE that has OMEGAMON® for z/OS® configured, and the model environment is already configured as the primary sysplex proxy (**KM5\_SYSPLEX\_PROXY\_POSITION=PRIMARY**), ensure that cloned environments are set to **KM5\_SYSPLEX\_PROXY\_POSITION=BACKUP**. Otherwise, the KCIJPALO allocation job tries to allocate the sysplex-related persistent data store files for the environment (or all the RKM5\* PDS history data sets are left allocated but not initialized).

#### **Tips:**

- The parameters that are discussed here are not the only parameters that you might want to change. Many other **KDS\_\*** parameters are needed for the remote monitoring server configuration. See [Common parameters](#) for information about KDS parameters. After you set the parameters that are shown here, go through the entire configuration profile to ensure that the parameter values are correct for the configuration you want.
- Be sure to uncomment any parameters that are needed for your configuration but are commented out by default. For example, the configuration profile for an RTE that contains a remote monitoring server that uses the IP.PIPE protocol to communicate with the hub requires the **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM** parameter, which is commented out by default. For such a configuration, you must uncomment this parameter and insert the port number between the quotation marks for the parameter value.

If the hub monitoring server to which the remote is reporting has SDA enabled, uncomment and customize the following parameters in the \$GBL\$USR global configuration profile:

- **GBL\_DSN\_SYS1\_SBPXEXEC** to the appropriate SYS1 library (default is SYS1.SBPXEXEC)
- **GBL\_HFS\_JAVA\_DIR1** (default is "/usr/lpp/java/IBM/J6.0")

**Note:** The Java™ directory can be any working Java™ directory.

If variables are enabled, edit the variables configuration profile to supply the values for any user-defined variables or any variables whose values are being overridden in this environment.

For step-by-step instructions for cloning RTEs, see [Deployment scenarios](#).

## **PARMGEN transport scenarios**

The way in which you decide to share or transport work and runtime libraries determines where you run the configuration jobs required by the replication scenario you are using to create new runtime environments.

For a first-time deployment, it is ideal to keep the deployment simple by creating the RTE on the same system that the PARMGEN deployment jobs and product started tasks will be running.

The following are all possible methods of sharing or transporting the runtime libraries between one runtime environment and another.

- Method 1: Defining a runtime environment on a z/OS image using shared DASD.  
This scenario employs a central site that defines and maintains the runtime environment configuration for both local and remote z/OS images. Each unique runtime environment that is defined represents a z/OS image. If a site has 10 shared-DASD z/OS systems (LPARs), the central site defines 10 unique runtime environments (either sharing-with-SMP/E targets, Full, or sharing-with-base) as part of the normal PARMGEN configuration process. These runtime environments are configured based on each remote site's respective configuration requirements (data set naming conventions, VTAM nodes, and the like). The central site must allow for the necessary DASD to allocate the libraries needed for each runtime environment.

Using this method, all jobs run on the same system and no libraries are copied.

- Method 2: Transporting a runtime environment from one z/OS image to another.  
This scenario is similar to method 1, except the 10 LPARs are on unshared DASD. During rollout of the initial runtime environment or during maintenance, you transport the product execution libraries (RK\*) to each LPAR using unshared DASD.

Using this method, all jobs are run on the same system. Only the RK\* libraries are copied to the target system. If system variables are enabled, the GBL\_USER\_JCL library must also be copied.

If the PARMGEN jobs are being submitted on the central staging LPAR for a non-local RTE, ensure that you modify the site-specific values to the system values for the RTE being transported during the "Customize PARMGEN configuration profile members" step. Specifically, change the LPAR-specific values autodiscovered by the PARMGEN KCIJPCFG/KCIJPPRF set-up jobs because LPAR RTE profile values for WCONFIG(PLB1SP22) for parameters for system name, IP hostname, Sysplex name, VTAM network ID, and other system values will reflect autodiscovered values on the system that the PARMGEN job ran on. Change these values accordingly before RTE transport or after you transported the jobs to the target LPAR.

- Method 3: Transporting PARMGEN WKANSAMU batch jobs from one z/OS image to another equipped with the SMP/E target libraries.

In this method, a central site maintains the OMEGAMON and Tivoli Management Services CSI and the SMP/E maintenance of the target data sets. Initial build distribution of the PARMGEN-supported OMEGAMON and Tivoli Management Services products to the remote z/OS images is done by copying the SMP/E target libraries and the PARMGEN batch jobs in the %RTE\_HILEV%.%RTE\_NAME%.WK\* and WCONFIG libraries to the remote sites. If system variables are enabled, the GBL\_USER\_JCL library must also be copied.

All the required steps are performed at the central site, up to \$PARSE or \$PARSESV job. Then the WKANSAMU jobs and the SMP/E target libraries are transported to the remote LPARs. On the remote site, only the WKANSAMU jobs (such as the KCIJPALO allocation job and the KCIJPLOD load job) are run to complete setup of the runtime environment (option 11 on the PARMGEN Workflow main panel). During maintenance, the latest fixes are applied to the central site, which then redistributes the updated target libraries to each remote site. The remote sites simply run the KCIJPLOD job to copy the new fixes from the updated or upgraded SMP/E target data sets to their product execution libraries (RK\*).

- Method 4: Transporting PARMGEN runtime environment work libraries from one z/OS image to another that is equipped with the SMP/E target libraries.

This scenario is similar to scenario 3, except in this scenario the PARMGEN setup is done at the remote LPAR. That is, the \$PARSE or \$PARSESV job is run at the remote site instead of the central site. That means that the runtime environment members and jobs are created on the remote LPAR, and you have the option of cloning from an existing set of PARMGEN work environments with already customized configuration profiles in WCONFIG, then transporting the PARMGEN work libraries (%RTE\_PLIB\_HILEV%.%RTE\_NAME%.IK\*, %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG, %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WK\*, GBL\_USER\_JCL) to the remote LPAR, and completing the remaining PARMGEN setup there.

Methods 1 and 2 support the use of system variables; methods 3 and 4 do not.

In methods 1 and 2, if system variables have been enabled for the runtime environment, there are several ways you can implement these symbolics as profile parameter values, depending on which type of system variables are being used (static symbols, KCIPARSE-extracted symbols, or user-defined symbols).

Symbolics for PARMGEN parameters like RTE\_NAME and RTE\_HILEV are used directly in the KCIJP\* and KCIJV\* batch jobs created by \$PARSESV in the WKANSAMU library. If these symbolics are static system symbols (&SYSNAME., &SYSCLONE., for example) or KCIPARSE-extracted symbols (&SYSIPHOSTNAME., &SYSVTAMNETID.) that resolve to different values on each LPAR, rather than user-defined symbols whose resolution values are controlled by the %GBL\_USER\_JCL%(RTE\_NAME%) LPAR system variables resolution member, the PARMGEN process assumes you plan to submit the WKANSAMU(KCIJV\*) jobs on the system where the symbolics resolve.

If you want to complete the setup in the local system (the central site) rather than the target system (the remote LPAR) where you intend to deploy the product execution RK\* runtime libraries, ensure that the system variables member in the user JCL on the target LPAR properly defines the static system symbols with your override values. Lines 12-14 in the following screen show an example of KCIPARSE-extracted symbols and your override values for LPAR2 if you intend to run the LPAR2 KCIJV\* jobs on LPAR1.

```

LPAR1  EDIT          TDITNT.PARMGEN.JCL(LPAR2)
Command ==>
***** ***** Top of Data *****
000001 * *****
000002 * USER SECTION: USER-DEFINED SYMBOLICS *
000003 * *****
000004 * ----- BEGIN - USER SECTION: USER-DEFINED SYMBOLICS ----- *
000005 * =====
000006 * User-defined symbolic:          Resolved value:
000007 * =====
000008 * Type 1: Static system symbol overrides:
000009 SYSALVL                        2
000010 SYSNAME                        LPAR2
000011 SYSCONE                        02
000012 * Type 2: KCIPARSE-extracted symbol overrides:
000013 SYSIPHOSTNAME                  LPAR2
000014 SYSVTAMNETID                  IBMNETID
000015 * Type 3: User-defined symbol:
000016 U_SYSALVL                      2
000017 U_SYSNAME                      LPAR2
000018 U_SYSCONE                      02
000019 BASELVLU                      1
000020 * ----- END - USER SECTION: USER-DEFINED SYMBOLICS ----- *
***** ***** Bottom of Data *****

```

Required LPAR2 WKANSAMU jobs:

- KCIJPALO
- KCIJPUPV
- KCIJVSUB
- KCIJVALO
- KCIJVL0D
- KCIJVUPV

Optional WKANSAMU LPAR2 jobs (depending on the configuration):

- KCIJVSEC
- KCIJVUSP
- KCIJVUSS
- KCIJVLNK
- KCIJVSYS
- KCIJVIVP
- KCIJVCPPY
- KCIJVW2R
- KCIJVDEL
- KCIJVMNT

## How-tos using PARMGEN

*How-tos* provide some best practices and instructions for performing specific tasks. The topics in this section tell you *how to* perform these tasks using PARMGEN. These instructions are meant to help you complete commonly used processes.

### How to: Convert an existing static hub monitoring environment to a high-availability hub environment

To convert an existing hub environment to a high-availability (HA) hub runtime environment (RTE), you create a new RTE with an HA hub and then either create a new RTE with a remote monitoring server or convert the existing hub RTE to a remote and configure it and any other remotes to connect to the new HA. This topic explains how to perform this task using PARMGEN.

#### About this task

When converting from a standard, static z/OS hub to an HA hub, you create a new runtime environment (either full or sharing) for the HA hub. The old static hub is either decommissioned if no longer needed or replaced by a remote monitoring server. The newly converted remote will take over all non-hub responsibilities of the old hub, such as collecting data for OMEGAMON for z/OS product or hosting agents. The new HA hub handles only hub-type functions. To preserve any customization (situations, managed systems list, and the like), the Enterprise Information Base from the static hub can be given to the new HA hub. Any application support such as the catalog and attribute files for distributed agents that were manually added to the old, static hub will need to be copied from the old hub to the new HA hub.

## Procedure

1. Create a new runtime environment and configure a high-availability hub in it (see [“Scenario QCF01: Configuring a full RTE with a high-availability hub monitoring server”](#) on page 615).
2. Before shutting down the old hub for the last time, create a member in RKANSQLU with the following statements:

```
DELETE FROM O4SRV.TSITDESC WHERE SITNAME LIKE 'UADVISOR_KM5_V*';
DELETE FROM O4SRV.SITDB WHERE RULENAME LIKE 'KM5.V*';
```

3. Execute the commands by using a Modify command:

```
F <hub stc>,CTDS START SPUFIL <name of member>
```

These situations are seeded using the configuration software and must not be in the database of the HA hub because they can trigger data collection attempts.

4. Back up the old hub runtime environment, preferably with the hub down.
5. Delete the following data sets from the new HA hub runtime environment and replace them with the old hub data sets. :
  - %HILEV%.%RTENAME%.RKDS\*
  - %HILEV%.%RTENAME%.RKCF\* if applicable
  - %HILEV%.%RTENAME%.RKCP\* if applicable

TUTORIAL INFORMATION This gives the new hub the entire EIB of the old one as well as the MQ Configuration Database (if applicable) and the CICSplex Service Level parameters (if applicable).

6. Take one of the following paths:
  - Build a new runtime environment for the LPAR where the old hub used to run. Define the monitoring server as remote and configure it to report to the new HA hub (see, for example, [“Scenario QCF04: Configuring a full RTE with a static hub monitoring server”](#) on page 646).
  - Modify the existing runtime environment to convert the hub to a remote (see, for example, [“Scenario RTE04: Converting a hub monitoring server to a remote”](#) on page 847).
7. Reconfigure any portal server or agent connecting directly to the hub, such as Warehouse Proxy Agents. For the portal server, do not rebuild the portal server database but use the same one that was used for the old hub (respond No to the pop-up). Reconfigure any remote monitoring servers to report to the new HA hub (see [“Scenario RTE04: Converting a hub monitoring server to a remote”](#) on page 847 for step-by-step instructions).
8. After a portal server is connected to the new HA hub, use the Managed Systems List (MSL) editor to review all custom MSLs that include monitoring server node IDs (if any) and use the situation editor to review all situations that are distributed to remote monitoring servers directly or to Managed Systems Lists that include monitoring server Node IDs. Also, review all Historical Data Collection configuration.

## How to: Convert a full RTE to a sharing RTE

To convert a full runtime environment (RTE) to a sharing RTE, you change the type to SHARING and provide the appropriate values for the high-level qualifier and the name of the shared RTE. If the shared RTE is a base RTE that does not already exist, you do not have to create it separately. PARMGEN sets up both the sharing runtime data sets and members and the set of shared base libraries. This topic explains how to perform this task using PARMGEN.

### About this task

Three parameters in the RTE configuration profile together define a sharing RTE:

**RTE\_TYPE**

The type of RTE (full or sharing)

#### **RTE\_X\_HILEV\_SHARING**

The non-VSAM high level qualifier of the base or full RTE that this RTE is sharing.

#### **RTE\_SHARE**

The name of the RTE from which this RTE gets its base library information. (If the RTE shares with the SMP/E target libraries, the value is SMP).

If the RTE\_TYPE is specified as FULL, the other two parameters are null.

**Tip:** Leave the **RTE\_LOAD\_SHARED\_LIBS** parameter set to Y to designate this RTE as the RTE that loads the base libraries. If another sharing RTE is already set to load the base libraries, set **RTE\_LOAD\_SHARED\_LIBS** to N to avoid loading the libraries multiple times when you refresh the RTEs.

After you edit the parameters, run the \$PARSE job to recreate the runtime members and jobs using the new values. Then, submit the following jobs:

- KCIJPALO job to allocate the runtime libraries
- KCIJPLOD job to copy RTE-specific read-only members from the SMP/E target libraries and load the base libraries.
- KCIJPW2R job to copy runtime members from the work libraries to the runtime libraries.
- KCIJPSYS job to refresh the started tasks in the PROCLIB. (You can also refresh the started tasks manually.)

## **How to: Convert a sharing-with-SMP/E RTE to sharing-with-base**

To convert a sharing-with-SMP/E RTE to a sharing-with-base RTE, leave the type set to SHARING and add the appropriate values for the high-level qualifier and the name of the shared base RTE. If the shared RTE is a base RTE that does not already exist, you do not have to create it separately. PARMGEN sets up both the sharing runtime data sets and members and the set of shared base libraries. This topic explains how to perform this task using PARMGEN.

### **About this task**

Three parameters in the RTE configuration profile together define a sharing RTE:

#### **RTE\_TYPE**

The type of RTE (full or sharing)

#### **RTE\_X\_HILEV\_SHARING**

The non-VSAM high level qualifier of the base or full RTE that this RTE is sharing. If this RTE is sharing-with-SMP/E, this value is null.

#### **RTE\_SHARE**

The name of the RTE from which this RTE gets its base library information. (If the RTE shares with the SMP/E target libraries, the value is SMP).

**Tip:** Leave the **RTE\_LOAD\_SHARED\_LIBS** parameter set to Y to designate this RTE as the RTE that loads the base libraries. If another sharing RTE is already set to load the base libraries, set **RTE\_LOAD\_SHARED\_LIBS** to N to avoid loading the libraries multiple times when you refresh the RTEs.

After you edit the parameters, run the \$PARSE job to recreate the runtime members and jobs using the new values. Then, submit the following jobs:

- KCIJPALO job to allocate the runtime libraries
- KCIJPLOD job to copy RTE-specific read-only members from the SMP/E target libraries and load the base libraries.
- KCIJPW2R job to copy runtime members from the work libraries to the runtime libraries.

- KCIJPSYS job to refresh the started tasks in the PROCLIB. (You can also refresh the started tasks manually.)

## How to: Clone customized data from an existing RTE

If you have cloned an existing runtime environment (RTE) or upgraded an RTE by pointing to new libraries, you might have customized data that you want to copy to the new RTE. For example, you might have customized data such as monitoring situations stored in VSAM data sets; OMEGAMON workspace definitions, profiles, and thresholds; or Enhanced 3270 user interface workspace definitions and profiles. This topic explains how to perform this task using PARMGEN.

### Before you begin

The following parameters must be customized in the RTE configuration profile before the KCIJPCLN job is submitted:

- **RTE\_CLONE\_FROM\_HLQRTE**
- **RTE\_CLONE\_FROM\_VSAM\_HLQRTE**

If these parameters are not already set to the appropriate values, modify the RTE configuration profile, then resubmit the \$PARSESM job before you submit the KCIJPCLN job.

### About this task

The KCIJPCLN job copies the following elements from the RTEs identified by the CLONE\_FROM parameters:

- any customized non-VSAM data such as profiles, workspaces, or screenspaces
- any customized VSAM data such as situations, SDA status data, and managed objects
- customized globals
- customized security modules and exits
- sequential data

Run this job before you bring up your started tasks.

### Procedure

1. Enter UTIL on the command line of the Workflow panel.  
The **Utilities** panel is displayed.
2. Select **Clone customized data from another RTE.** (option 29).  
The KCIJPCLN JCL is displayed.
3. Edit the job for other RTEs as needed and review the job for certain product restrictions.
4. Submit the job.
5. Bring up your started tasks.

## How to: Merge predefined variables into configuration profiles

Using variables makes it much easier to change operational values, such as storage-related values or port numbers, that affect multiple products and runtime environments. You can change the resolution values of the variables without recreating the runtime environments. IBM provides a set of system variables and user-defined variables that you can import into your configuration profiles. The variable symbols automatically replace the values for the corresponding parameters so you do not have to edit the parameters individually. This topic explains how to perform this task using PARMGEN.

### Before you begin

If your RTE needs to be updated in any way (for example, to apply the latest maintenance), reconfigure the RTE before you merge the model variables into your profile (KCIJPCFG). Follow the appropriate SMP/E scenario for applying the maintenance.

### About this task

The KCIJPMCF job sets the variables support flag if necessary and merges the set of variables in the %GBL\_TARGET\_HILEV%.TKANSAM(\$MDLVARS) member into the current RTE configuration profile. The merge replaces current configuration values with symbolics. These symbolics are predefined with IBM defaults. You need to import these definitions from %GBL\_USER\_JCL%(KCI\$RTEV) into your variables profile.

The merge job does not overlay values like high-level qualifiers, started task prefixes and names, and VTAM applid prefix and names that are inherited from the KCIP@PG3 panel. After you run the merge job, review these parameters in the RTE configuration profile to decide whether you to change them to variables such as &SYSNAME, or &SYSCLONE..

This procedure consists of six steps:

1. Merge the model variables into the configuration profiles.
2. Edit the RTE configuration profile.
3. Copy the KCI\$RTEV member into the variables profile and edit the profile.
4. Recreate members and jobs (\$PARSESV).
5. Submit the jobs necessary to complete the set up of the RTE.
6. Recycle any affected started tasks.

## Procedure

1. Merge the model variables.
  - a. Enter UTIL on the command line of a Workflow panel. The **Utilities** panel is displayed.
  - b. Select **Merge profile from a backup LPAR RTE profile** (option 16). The JCL for the KCIJPMCF job is displayed.
  - c. Edit the value for OLDMEM to point to %GBL\_TARGET\_HILEV%. TKANSAM (\$MDLVARS).

```
000079 //* Merge the changes in %OLDMEM% into %NEWMEM% member.
000080 //* *****
000081 //MERGECHG EXEC PGM=IKJEFT01,DYNAMNBR=99,REGION=4M
000082 //SYSEXEC DD DISP=SHR,
000083 // DSN=TDITNT.DEV.ITM63053.TKANCUS
000084 //SYSTSPRT DD SYSOUT=*
000085 //SYSPRINT DD SYSOUT=*
000086 //SYSTSIN DD *
000087 KCIRPLBX +
000088 BATCH +
000089 SKIPVAR(TDITNT.DEV.ITM63053.TKANCUS(KCIDPGNX)) +
000090 OLDMEM(%GBL_TARGET_HILEV%.TKANSAM($MDLVARS)) +
000091 NEWMEM(TDITN.FTU.$MDLHFV.WCONFIG($MDLHFV))
```

- d. Submit the job.
2. Edit the RTE configuration profile.
  - a. From the Workflow main menu, select **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** panel is displayed.
  - b. Enter 1 to edit the RTE configuration profile.
  - c. Edit the profile to implement variables for any of the inherited parameter values that were not overwritten.
 

For example, RTE\_NAME is inherited as part of multiple parameters, such as RTE\_TEMS\_NAME\_NODEID, RTE\_X\_SECURITY\_EXIT\_LIB, or RTE\_PDS\_HILEV. Change the static RTE name in the parameter values to &SYSNAME. by doing XF on the RTE name, and then doing a change all to &SYSNAME..
  - d. Change the value of RTE\_NAMESV back to the static RTE name.
  - e. Save your changes and return to the **Customize PARMGEN Configuration Profile Members** panel.
3. Copy the KCI\$RTEV member into the variables profile and edit the profile.
  - a. Select option 3 (Customize the Variables Profile).
  - b. To customize the variables profile, copy the contents of %GBL\_USER\_JCL%(KCI\$RTEV) and append them to the end of the RTE variables profile.
  - c. Customize the resolution values as necessary for your site.

Edit the values for any system variables that cannot be determined from the IPL PARMLIB and the values for any user-defined variables whose site-specific values differ from the IBM supplied defaults.

4. Recreate members and jobs.
    - a. From the Workflow main menu, select **Create RTE members and jobs**.
    - b. Submit the \$PARSESV job.
  5. Submit the jobs necessary to complete the set up of the RTE.
    - a. From the Workflow main menu, select **Submit batch jobs to complete PARMGEN setup** . The Submit Batch Jobs to Complete PARMGEN Setup is displayed.
    - b. Submit the KCIJPSYS job to refresh started tasks or manually refresh the started tasks in the PROCLIB.

If the RTE was previously enabled for variables, and you did not make any changes to previously defined RTE parameters with symbols, you do not need to submit the KCIJPSYS job. Instead, you can just edit the RKLVIN DDNAME as follows:
- ```
//RKLVIN DD DISP=(OLD,PASS),  
// DSN=&&TMPPARU(&STARTUP),  
// VOL=REF=* .KCIPARSE.TMPPARU,  
//*RKLVIN DD DISP=SHR,  
//* DSN=&USERPARU(&STARTUP),  
// FREE=CLOSE
```
- c. Submit the KCIJPW2R job to deploy the updated runtime members from the WK\* libraries to the RK\* production user libraries.
6. Recycle the affected started tasks.

## How to: Change SMP/E target libraries

If you want to install maintenance or upgrades while leaving your current CSI to support your production environment, install the new software into a new CSI and then change the SMP/E target libraries to upgrade the runtime environments (RTEs). This topic explains how to perform this task using PARMGEN.

### Before you begin

If you are installing maintenance or upgrades into a new set of target libraries, use a ServerPac to install the new FMIDs. Make sure that the ServerPac includes all the products in the original CSI or they will not be configured in the updated RTE.

### About this task

To change the target libraries, you modify the GBL\_TARGET\_HILEV, refresh the configuration profile, recreate the runtime members, copy the new read-only SMP/E libraries to the read-only RK\* runtime libraries, and load the refreshed runtime members.

### Procedure

1. Change the target libraries and refresh the work environment.
  - a. In the Workflow - Primary Option panel, select **Set up PARMGEN work environment for an RTE**. A message reminds you that if you make any changes to the parameters on the following panels, you will have to rerun the KCIJPCFG job.
  - b. Press Enter to proceed to the first set up panel, then press Enter again to display the second set up panel.

This panel contains the high-level qualifier for the current SMP/E libraries.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                                Quick Configuration Mode
GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
                                UNIT / STORCLAS /
                                VOLSER / MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                                HLQ of SMP/E target (TK*) datasets _____
GBL_SYSDA_UNIT:  SYSDA___
                                Work datasets UNIT name
GBL_REGION:      OM_____
                                JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel. Type UTIL to access utility menu.

```

- c. Change the high-level qualifier (GBL\_TARGET\_HILEV) to the high-level qualifier for the new libraries, then press Enter.
  - d. Press Enter again on the third set up panel to retain the same parameter values.
  - e. On the **Include Products in this PARMGEN RTE** panel, set **Confirm ==>** to Y to accept the current product set, then press Enter.  
Note that if this RTE includes only a high-availability hub, the Include Products panel is not displayed. If new versions of products are included in the target libraries, the products configured in the RTE will be upgrade to those versions.  
A message asks you to provide a backup name for the RTE configuration profile.
  - f. Provide the requested name, then press Enter.  
The KCIJPCFG JCL is displayed.
  - g. Submit the job.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the libraries and merges the backed up profile with the newly generated one that contains any new parameters introduced by maintenance or upgrades.
  - h. Return to the Workflow primary options menu. Wait until both jobs have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Recreate the runtime members and jobs.
    - a. From the primary options menu, select **Create the RTE members and jobs**.
    - b. On the **Create the RTE Members and Jobs** panel (KCIP@PR1), select option **1** to submit the \$PARSE job (or \$PARSESV job if variables are enabled).  
The \$PARSE JCL is displayed.
    - c. Submit the job and return to the Workflow - Primary Options Menu. Wait until the job completes, then proceed to the next step.
3. Submit the LOAD job and any other jobs required by affected products or components.
    - a. From the primary options menu, select **Submit batch jobs to complete PARMGEN setup**.  
The **Submit Batch Jobs to Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.
    - b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column or by the HOLD+ data for each product or component.
      - KCIJPLOD: This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.
      - KCIJPW2R: This job deploys the updated runtime members from the WK\* work libraries to the RK\* production user libraries.

If you run KCIJPW2R, run KCIJPCPR to back up the RK\* production libraries.  
You might have to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets)
- KCIJPUSP and KCIJPUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON® for IMS™ on z/OS® is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

## Result

Any maintenance or upgrades installed in the new CSI are applied to the reconfigured RTE.

## How to: Switch base read-only libraries using a user-defined variable

To leave started tasks running from one set of base read-only libraries while you apply maintenance or upgrades to a second set, use a user-defined symbol for the name of the base runtime environment (RTE) and create a second set of read-only libraries. Then, after you successfully apply and test the changes, you can point the STCs to the second set either by editing the value of the symbol in the RTE's variables profile, or by modifying the composite STC (IBMSSTRT by default). This topic explains how to perform this task using PARMGEN.

### About this task

In a sharing RTE, the values for the RTE\_X\_HILEV\_SHARING and the RTE\_SHARE parameters in the RTE configuration profile become part of the BASEHLEV symbol in the PARMGEN-created STCs. For example, the parameters in the following example:

```
000025 RTE_X_HILEV_SHARING "IBM.ITM63051"
.
000039 RTE_SHARE "BASE&BASELVL."
```

become BASEHLEV=IBM.ITM63051.BASE&BASELVL..R in the following started task:

```
000020 //IBMDS PROC RGN=0M,TIM=1440,
000021 // SYS=&SYSNAME.,
000022 // RHILEV=IBM.ITM63053,
000023 // BASEHLEV=IBM.ITM63053.BASE&BASELVL..R,
```

After both BASE1 and BASE2 libraries are created, the BASEHLEV symbol in all product points to the generic BASEHLEV=IBM.ITM63051.BASE&BASELVL..R. The CONFIG DD in the product started tasks determines which set of libraries the started task is pointing to.

To set up a sharing-with-base RTE that has two sets of read-only base libraries, complete the following steps.

## Procedure

- To create a sharing-with-base RTE that uses variables, complete the following steps:
  - a. Create a sharing-with-base RTE and enable it for system variables (RTE\_SYSV\_SYSVAR\_FLAG=Y). Use a variable such as &BASELVL for the name of the base RTE (for example, RTE\_SHARE=BASE&BASELVL). Define the variable in the RTE's variables profile (%GBL\_USER\_JCL%(RTE\_NAME%)) and set its value to 1. This creates a set of BASE1 read-only libraries named IBM.ITM63051.BASE1.RK\* (RKANMOD, RKANMODL, RKANPENU, RKANEXEC, and so on).  
  
For step-by-step instructions, see [“Scenario QCF09: Creating a sharing-with-SMP/E runtime environment with a remote monitoring server and variables enabled” on page 692.](#)
  - b. Create a second set of shared read-only BASE2 libraries:
    - a. Edit the variables profile for the sharing RTE that you created in the previous step and specify the value for BASELVL as 2.
    - b. Submit the WKANSAMU(KCIJVBSA) stand-alone base-only allocation job to allocate the new base libraries.
    - c. Submit the WKANSAMU(KCIJVBSL) standalone base-only allocation job to load the new base libraries.

- c. To control which base libraries are used at product start up, customize the IBMSTRT composite startup member supplied by PARMGEN to override the value of the user-defined symbol. (If you start your products from SDSF, customize each STC to set the appropriate value.) The following example shows two ways to modify the startup procedures to change the value. You can override just the BASELVL symbol (line 000071), or you can override the entire base high level symbol, by changing the value for the base libraries (line 000073).

```

EDIT      CAN.USER.PROCLIB(IBMSTRT) - 01.14          CHARS 'DSR2' found
Command ===>                                     Scroll ===> CSR
000069 //*****
000070 //* IBMDS - Tivoli Enterprise Monitoring Server
000071 //* START IBMDS&AR,MSGCLASS=X,BASELVL=1
000072 //* START IBMDS&AR,MSGCLASS=X,BASEHLEV=TSTEST.ITM6353.BASE1.R
000073 //* START IBMDS&AR,MSGCLASS=X,BASEHLEV=TSTEST.ITM6353.BASE2.R
000076 //*

```

- To convert an existing RTE to use a second shared base RTE, complete the following steps:
  - a. If variables are not already enabled in the sharing RTE, or a static value was used for the RTE\_SHARE parameter:
    - a. Edit the RTE configuration profile to set RTE\_SYSV\_SYSVAR\_FLAG=Y.
    - b. Edit the RTE\_SHARE parameter in the RTE profile to use a variable such as &BASELVL. as part of the name of the base RTE.
    - c. Edit the RTE's variables profile (%GBL\_USER\_JCL%(%RTE\_NAME%)) to define the variable and set its value to the value you want to use for the first shared RTE.
    - d. Run the \$PARSESV job.
    - e. Resubmit the following batch jobs to refresh the RTE members and jobs:
      - KCIJVSYS (to refresh the updated system members such as the started tasks and VTAM major nodes)
      - KCIJVCPR (to backup the current user product execution user libraries)
      - KCIJW2R (to copy the work libraries to the product execution user libraries--RKANCMDU, RKANPARU, RKANSAMU, and so on)
  - b. Create the second set of base libraries:
    - a. Edit the variables profile for the sharing RTE and specify the value for BASELVL for the second base RTE, for example 2.
    - b. Submit the WKANSAMU(KCIJVBSA) job to allocate the new base libraries.
    - c. Submit the WKANSAMU(KCIJVBSL) job to load the new base libraries.
  - c. See step 3 in the previous procedure.

## How to: Change PDS file count and file size

After you have been collecting and displaying historical data for a while, you might find it that you need to adjust the amount of data that you store. To change the amount of data, you adjust the number and size of files used in the persistent data store. This topic explains how to perform this task using PARMGEN.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

To increase or decrease the file count and file size, edit the **Kpp\_PDS\_FILE\_COUNT** and **Kpp\_PD\_CYL** parameter in the RTE configuration profile. The default value of **Kpp\_PDS\_FILE\_COUNT** is 6, with a range of permissible values from 3 to 36. The default value of **Kpp\_PD\_CYL** is different for different agents. After you make the desired adjustment to the number of files, refresh the profile and reallocate the PDS data sets.

## Procedure

1. In the RTE configuration profile, edit the **Kpp\_PDS\_FILE\_COUNT** parameter to specify the desired number of files.  
For more information about the parameter, see [Kpp\\_PDS\\_FILE\\_COUNT](#).
2. Edit the value of **Kpp\_PD\_CYL** to change the size of each file.  
For more information about the parameter, see [Kpp\\_PD\\_CYL](#).
3. Submit the \$PARSE job to refresh the profile.

**Tip:** Because only RKANPARU data set is affected by this change, you can run the \$PARSEPR job instead. On the **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel, press F5, to access the library-specific jobs.

4. Allocate the PDS data sets. Submit the KCIJPALO job to reallocate the PDS data sets.
  - For new RTEs that have not created the persistent data store files, submit the KCIJPALO job to allocate the PDS files.
  - For existing RTEs that already have allocated the persistent data store files, you must rename or delete the files, and then submit the KCIJPALO job to reallocate the PDS files. For more information about reallocating the PDS files, see [“How to: Reallocate PDS files” on page 490](#).
5. Submit the WKANSAMU(KCIJPW2R) job on the SUBMIT panel.

## How to: Reallocate PDS files

If the persistent data store files fill up or become corrupted, new historical data cannot be collected. To correct this problem, the data sets must be reallocated. This topic explains how to perform this task using PARMGEN.

### Before you begin

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The started task for the monitoring server or monitoring agent collecting the data must be stopped when you perform this procedure. Schedule the procedure for a time when the server or agent is scheduled to be down or can be recycled.

### About this task

To reallocate the files that store historical data, you delete the files and then reallocate the data sets.

## Procedure

1. Delete the persistent data store files using the RKANSAMU(KppDELJB) job.  
Keep the Delete statements for the data sets you want to delete. Comment out or delete the Delete statements for any data sets you want to keep.
2. Submit the composite KCIJPALO job to reallocate the files for multiple products, or the stand-alone KppJPALP job for a specific product.  
The stand-alone jobs are created in the WKANSAMU data set after the \$PARSE (or \$PARSESV) job is run.

## How to: Avoid refreshing shared read-only base libraries multiple times

Running the KCIJPLOD load job is part of most maintenance scenarios. For sharing-with-base environments, this job loads both the LPAR-unique libraries and the common shared base libraries by default. The RTE\_LOAD\_SHARED\_LIBS parameter in the configuration profile of each runtime environment controls whether or not the base libraries are loaded. If you have multiple runtime environments sharing the same base libraries, to avoid loading the base libraries multiple times designate one environment to load the base libraries by

leaving its flag set to Y, and disable loading of base libraries in all the others. This topic explains how to perform this task using PARMGEN.

## About this task

If the RTE\_LOAD\_SHARED\_LIBS parameter is set to Y (the default) in the profiles for all the runtime environments that share the same base libraries, then the KCIJPLOD job for each environment loads the base libraries each time you run the KCIJPLOD job. Although it does not hurt the configuration to do so, running the job multiple times will perform multiple IEBCOPY steps to the RK\* libraries for the same SMP/E code. If you have multiple runtime environments sharing the read-only base libraries, it is a best practice designate one environment to load the base libraries; for this environment, leave the RTE\_LOAD\_SHARED\_LIBS parameter set to the default. Set the value for the other environments to N.

## Procedure

- To disable loading of base libraries in sharing runtime environments, locate the RTE\_LOAD\_SHARED\_LIBS parameter in the configuration profile and set its value to N:

```
IBM.ITM62351.LPAR1.WCONFIG(LPAR1)
Command ==>                               Scroll ==> CSR
000358 ** Runtime environment (RTE) settings:
000359 ** Specify the name of the RTE in the RTE_NAME parameter if this RTE
000360 ** is not enabled for System Variables (RTE_SYSV_SYSVAR_FLAG=N).
000361 RTE_NAME                               LPAR1
000362
000365 ** Type of RTE:
000366 ** There are three types of RTEs:
000367 ** FULL      - Allocates Image-specific and Base libraries.
000368 ** SHARING   - Allocates Image-specific libraries and shares Base
000369 **             libraries with another RTE or SMP/E target libraries.
000370 RTE_TYPE                               SHARING      * FULL, SHARING *

000381 ** If RTE high-level qualifier of the production runtime (RK*)
000382 ** libraries is different from PARMGEN RTE_PLIB_HILEV qualifier,
000383 ** then specify. Otherwise, default is the PARMGEN RTE_PLIB_HILEV
000384 ** qualifier. For an ICAT-to-PARMGEN converted RTE, RTE_HILEV and
000385 ** RTE_VSAM_HILEV are set to the same RTE HLQ previously used
000386 ** prior to conversion.
000387 RTE_HILEV                               IBM.ITM62351
000388 RTE_VSAM_HILEV                          IBM.ITM62351
000389
000390 ** Required if RTE_TYPE is SHARING:
000391 ** Specify the Non-VSAM HLQ in the "RTE_X_HILEV_SHARING" of the
000392 ** RTE being shared to by LPAR1 RTE.
000393 ** For RTE_SHARE parameter, specify "SMP" value if this RTE is sharing
000394 ** with SMP/E target libraries.
000395 ** Otherwise, specify the name of the shared-to RTE in the "RTE_SHARE"
000396 ** parameter.
000397 RTE_X_HILEV_SHARING                     "IBM.ITM62351"

000398 RTE_SHARE                               "BASEA"

000400 ** (Optional) Only valid when RTE_TYPE is SHARING, and RTE_SHARE is
000401 ** not SMP. Specify "Y" to include shared runtime datasets in the
000402 ** RTE Load job.
000403 RTE_LOAD_SHARED_LIBS                    "Y"
```

**Important:** In sharing runtime environments where RTE\_LOAD\_SHARED\_LIBS has been set to N, some of the IEBCOPY steps that refresh the read-only libraries are not generated as part of the KCIJPLOD job. However, these steps are generated in the KCIJPLOD job for the runtime environment where RTE\_LOAD\_SHARED\_LIBS has been set to Y. Examples of these types of IEBCOPY steps that will not be generated are as follows.

```

EDIT          IBM.ITM62351.LPAR1.WKANSAMU(KCIJPL0D)
Command ==>
000356 //KANEXEC EXEC PGM=IEBCOPY,REGION=0M
000357 //SYSPRINT DD SYSOUT=*
000358 //TKANEXEC DD DISP=SHR,
000359 //          DSN=IBM.ITM62351.TKANEXEC
000360 //RKANEXEC DD DISP=SHR,
000361 //          DSN=IBM.ITM62351.BASEA.RKANEXEC
000362 //SYSUT3 DD UNIT=3390,SPACE=(TRK,(15,15))
000363 //SYSUT4 DD UNIT=3390,SPACE=(TRK,(15,15))
000364 //SYSIN DD *
000365 COPY INDD=((TKANEXEC,R)),OUTDD=RKANEXEC
000366 COPY INDD=RKANEXEC,OUTDD=RKANEXEC
000367 /*
000368 //KANOSRC EXEC PGM=IEBCOPY,REGION=0M
000369 //SYSPRINT DD SYSOUT=*
000370 //TKANOSRC DD DISP=SHR,
000371 //          DSN=IBM.ITM62351.TKANOSRC
000372 //RKANOSRC DD DISP=SHR,
000373 //          DSN=IBM.ITM62351.BASEA.RKANOSRC
000374 //SYSUT3 DD UNIT=3390,SPACE=(TRK,(15,15))
000375 //SYSUT4 DD UNIT=3390,SPACE=(TRK,(15,15))
000376 //SYSIN DD *
000377 COPY INDD=((TKANOSRC,R)),OUTDD=RKANOSRC
000378 COPY INDD=RKANOSRC,OUTDD=RKANOSRC
000379 /*
000380 //KANWENU EXEC PGM=IEBCOPY,REGION=0M
000381 //SYSPRINT DD SYSOUT=*
000382 //TKANWENU DD DISP=SHR,
000383 //          DSN=IBM.ITM62351.TKANWENU
000384 //RKANWENU DD DISP=SHR,
000385 //          DSN=IBM.ITM62351.BASEA.RKANWENU
000386 //SYSUT3 DD UNIT=3390,SPACE=(TRK,(15,15))
000387 //SYSUT4 DD UNIT=3390,SPACE=(TRK,(15,15))
000388 //SYSIN DD *
000389 COPY INDD=((TKANWENU,R)),OUTDD=RKANWENU
000390 COPY INDD=RKANWENU,OUTDD=RKANWENU
000391 /*

```

## How to: Use KOBSPDPT security exits with PARMGEN

When using a PARMGEN configuration, you can use KOBSPDPT OMEGAMON security command table exits for the PARMGEN KCIJPSEC composite security job. This topic explains how to perform this task using PARMGEN.

### About this task

The table below provides the source for the external security exits and modules that are used in the KOBSPDPT KppSUPDI exit .

Source of the OMEGAMON external security exits and modules referenced in the KOBSPDPT KppSUPDI exit

| <i>Table 58: Source of the OMEGAMON external security exits and modules referenced in the KOBSPDPT KppSUPDI exit</i> |                                                                                                                                           |                                                                                                             |                                                                  |                                                                  |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| Component                                                                                                            | External Security Jobs (PARMGEN)                                                                                                          | External Security Location (PARMGEN)                                                                        | External Security MODULE Referenced in KOBSPDPT Exit Name (RACF) | External Security MODULE Referenced in KOBSPDPT Exit Name (ACF2) |
| OMEGAMON (3270)<br>CICS                                                                                              | Composite:<br>WKANSAMU<br>(KCIJPSEC) or stand-<br>alone: WKANSAMU<br>(KOCACF2A),<br>WKANSAMU<br>(KOCRACFA), and<br>WKANSAMU<br>(KOCTOPSA) | User-specified<br>RTE_X_SECURITY_<br>EXIT_LIB library<br>(initially copied from<br>TKANSAM sample<br>exit). | KOCARACF<br>KOCBRACF (SAF)                                       | KOCAACF2                                                         |

| Component            | External Security Jobs (PARMGEN)                                                                  | External Security Location (PARMGEN)                                                        | External Security MODULE Referenced in KOB SUPDT Exit Name (RACF) | External Security MODULE Referenced in KOB SUPDT Exit Name (ACF2) |
|----------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|
| OMEGAMON (3270) Db2  | Composite: WKANSAMU (KCIJPSEC) <i>or</i> stand-alone: WKANSAMU (KO2ACF2A) and WKANSAMU (KO2RACFA) | User-specified RTE_X_SECURITY_EXIT_LIB library (initially copied from TKANSAM sample exit). | KO2RACFX                                                          | KO2ACF2X                                                          |
| OMEGAMON (3270) IMS  | Composite: WKANSAMU (KCIJPSEC) <i>or</i> stand-alone: WKANSAMU (KOIACF2A) and WKANSAMU (KOIRACFA) | User-specified RTE_X_SECURITY_EXIT_LIB library (initially copied from TKANSAM sample exit). | KOIURCHK                                                          | KOIUACHK                                                          |
| OMEGAMON (3270) z/OS | Composite: WKANSAMU (KCIJPSEC) <i>or</i> stand-alone: WKANSAMU (KOMACF2A) and WKANSAMU (KOMRACFA) | User-specified RTE_X_SECURITY_EXIT_LIB library (initially copied from TKANSAM sample exit). | KOMRACFX                                                          | KOMACF2X                                                          |

## Procedure

1. If the RTE\_X\_SECURITY\_EXIT\_LIB parameter in the RTE configuration profile is pointing to RKANSAM (the original default), change it to point to the appropriate library. The new default is RKANSAMU. This global security exit data set is allocated by the KCIJPALO allocation job. The RTE\_X\_SECURITY\_EXIT\_LIB parameter defaults to the RKANSAMU library of the runtime environment, because this is where the KCIJPLOD job copies all the product security exits, including KppSUPDI.

In this example, IBM.ITM62351.LPAR1.SECURITY is the RTE\_X\_SECURITY\_EXIT\_LIB value, as shown in line 536 of the following example.

```

EDIT  IBM.ITM62351.LPAR1.WCONFIG(LPAR1)
Command ==>
000524 ** Library where user security exits are located:
000525 ** Override the SYSIN DD where the user exits may have been
000526 ** customized (if other than default RKANSAM location).
000527 ** The KppJPSC3 input members to the composite KCIJPSEC security job
000528 ** point SYSIN DD to RKANSAM by default. If you need to make further
000529 ** changes to sample exit, copy the user exit to xKANSAMU library and
000530 ** make changes accordingly. Then modify the RTE_X_SECURITY_EXIT_LIB
000531 ** parameter and change the value to RKANSAMU instead.
000532 ** ICAT->PARMGEN conversion considerations:
000533 ** If this is an ICAT RTE conversion, the security exit source
000534 ** library varies for each product. Please refer to the
000535 ** application-specific security jobs for more information.
000536 RTE_X_SECURITY_EXIT_LIB  IBM.ITM62351.LPAR1.SECURITY

```

2. Run the \$PARSE or \$PARSESV job to recreate the runtime members and update the jobs.
3. Submit the following jobs from the **Submit Batch Jobs to Complete PARMGEN Setup** panel (KCIP@SUB):
  - a. If you changed the name of the library, rerun KCIJPALO.
  - b. Run the KCIJPLOD job.
4. Select option 4 (KCIJPSEC).  
The following message is displayed:

```

----- PARMGEN MESSAGES -----
Command ==>

You are about to run the security job. Before editing the
security job, you will first be given an opportunity to edit
the security exits in lib TSTEST.&username.PLB1SP22.RKANSAMU.
If desired, customize the security exits.
-----

```

5. Press Enter to proceed.
6. Select the exits you want to edit, and customize them as appropriate.  
For example, if they have not already been customized, edit the RACF-related or ACF2-related external security exits to point to the preferred resource class if other than the IBM-supplied default. If not already customized, edit the applicable *KppSUPDI* KOBSPDPT security exits to point the **MODULE=** parameter to your external security module. (See the columns labeled External Security MODULE Referenced in KOBSPDPT Exit Name in [“Source of the OMEGAMON external security exits and modules referenced in the KOBSPDPT KppSUPDI exit”](#) on page 492).
7. After you finish making the changes, press F3.  
The modified KCIJPSEC job is presented.
8. Submit the job.
9. Submit the KCIJPW2R job to copy the work libraries (WK\*) to the production libraries (RK\*).

## Result

The KOBSPDPT OMEGAMON security command table exits are available in the new PARMGEN runtime environment.

## How to: Configure passphrase and MFA support in the OMEGAMON 3270 Classic interface

In addition to using a regular password, you can also log on securely to the OMEGAMON 3270 Classic interface using a password phrase (passphrase) and multi-factor authentication (MFA). Some configuration steps are necessary to enable passphrase and MFA support for the OMEGAMON 3270 Classic interface. This topic explains how to perform this task using either Configuration Manager or PARMGEN.

### Before you begin

A traditional mainframe password is eight bytes or less, while a passphrase is from nine to 100 bytes. MFA is an authentication method that typically requires a six-digit volatile numeric token that is paired with a password or passphrase value. A user ID must be set up in the security system to use a passphrase.

**Note:** Your security administrator must set up the user ID to use a passphrase. For RACF, use the PHRASE operand with the [ADDUSER](#) or [ALTUSER](#) command. For a security product other than RACF, refer to the documentation for that product for guidance on the equivalent actions.

On a 3270 screen, depending on the screen width, entering a long passphrase value into a field might require multiple lines. For example, if the screen width is 80 bytes, an input field would require multiple lines to support a value longer than 80 bytes. For a wider screen size, you can support a longer value on a single line, up to the available screen width.

On the OMEGAMON 3270 Classic interface logon screen, by default, the password fields support passwords that are eight bytes or less. Optionally, you can configure your product to support passphrase and MFA values for the OMEGAMON 3270 Classic interface; multiple settings are available. When passphrase support is enabled, configuration parameters are used to specify the SAF security class and SAF application ID to use for the OMEGAMON 3270 Classic interface.

**Important:** When passphrase support is enabled, OMEGAMON implements the SAF interface for external security without the use of security exits. For more information, see [OMEGAMON® 3270 Classic interface security](#).

## About this task

To use passphrase values and MFA for the OMEGAMON 3270 Classic interface, you must configure your product to enable passphrase support. Multiple passphrase configuration options are available that affect the length of the passphrase that is supported on a single line and the layout of the logon screen.

**Note:** It is recommended that you review the available configuration options, especially if you use programs to automate the logon process to the OMEGAMON 3270 Classic interface that rely on static placement of keywords and input fields.

Passphrase support for the OMEGAMON 3270 Classic interface is provided for the following products, listed with the respective product code:

- OMEGAMON for CICS (C2)
- OMEGAMON® AI for Db2 (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

Passphrase enablement and configuration is controlled by parameter **Kpp\_CLASSIC\_PASSPHRASE**, where *pp* is C2, D2, I2, or M2, depending on the supported product. When passphrase support is enabled, the SAF security class is defined by **Kpp\_CLASSIC\_SECCLASS** and the SAF application ID is defined by **Kpp\_CLASSIC\_SAFAPPL**, where *pp* is C2, D2, I2, or M2.

The following configuration options are available for passphrase support:

### **Kpp\_CLASSIC\_PASSPHRASE**

This parameter specifies the passphrase support setting for the OMEGAMON 3270 Classic interface.

**Note:** In the following figures, a ruler is shown on the screen. The ruler is included in the documentation for illustrative purposes only and is not displayed in the product.

## PARTIAL

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of a single line. The minimum length of each of these fields is 34 bytes, and the maximum length (which can be up to 100 bytes) depends on the screen width. With this setting, the fields are aligned in the center of the screen, as shown in the following figure:

```
>
>                               Copyright 1980-2022
>                               IBM Corporation. All rights reserved.
>                               Use permissible by license only.
>

                                ENTER USERID ==>
                                PASSWORD ==>
                                GROUP ==>
                                NEW PASSWORD ==>

                                Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
123456789012345678901234567890123456789012345678901234567890
```

**Note:** Passphrase support for the OMEGAMON 3270 Classic interface is introduced with APAR OA57133 (PTF UA98944). With the PARTIAL setting, the input field labels and placement are compatible with the screen layout before passphrase support was introduced.

## MAX62

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of a single line. The minimum length of each of these fields is 62 bytes, and the maximum length (which can be up to 100 bytes) depends on the screen width. With this setting, the fields are aligned at the left of the screen, as shown in the following figure:

```
>
>          Copyright 1980-2022
>          IBM Corporation. All rights reserved.
>          Use permissible by license only.
>

ENTER USERID ==>
      PASSWORD ==>
            GROUP ==>
NEW PASSWORD ==>

          Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
1234567890123456789012345678901234567890123456789012345678901234567890
```

## FULL

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of two lines. The value in the second line is concatenated onto the end of the value in the first line. The length of the first line is 34 bytes and the length of the second line is 66 bytes, allowing the maximum passphrase value of 100 bytes to be entered. With this setting, the fields are aligned in the center of the screen, as shown in the following figure:

```
>
>          Copyright 1980-2022
>          IBM Corporation. All rights reserved.
>          Use permissible by license only.
>

          ENTER USERID ==>
                PASSWORD ==>

                GROUP ==>
          NEW PASSWORD ==>

          Press F3 to exit logon

|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
1234567890123456789012345678901234567890123456789012345678901234567890
```

## NO or NONE

Passphrase support is not enabled. The lengths of the **PASSWORD** and **NEW PASSWORD** fields are eight bytes each. With this setting, if you have external security defined using a security exit, the fields are aligned in the center of the screen, as shown in the following figure:

```

>
> Copyright 1980-2020
> IBM Corporation. All rights reserved.
> Use permissible by license only.
>
>
> ENTER USERID ==>
> PASSWORD ==>
> GROUP ==>
> NEW PASSWORD ==>
>
> Press F3 to exit logon
>
|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
1234567890123456789012345678901234567890123456789012345678901234567890

```

**Note:** If you do not have external security defined, none of the fields for credentials appear on the logon screen.

Use the following procedure to enable passphrase and MFA support for your OMEGAMON 3270 Classic interface. If you do not want to use passphrase or MFA when logging on to the OMEGAMON 3270 Classic interface, no configuration changes are needed.

## Procedure

To enable passphrase support for your OMEGAMON 3270 Classic interface, perform the following steps for each of your supported OMEGAMON products. Use either of the following methods:

- Using Configuration Manager:
  - a. In RTEDEF(*Kpp\$PARM*) or RTEDEF(*Kpp\$lpar*), add the following parameters:
    - Kpp\_CLASSIC\_PASSPHRASE** set to value PARTIAL, MAX62, or FULL
    - Kpp\_CLASSIC\_SECCLASS** set to the OMEGAMON SAF security class
    - Kpp\_CLASSIC\_SAFAPPL** set to the OMEGAMON SAF application ID
  - b. Run the **GENERATE** action.

Recycle the OMEGAMON Classic started task for the configuration changes to take effect. See the product-specific documentation for more information.

**Note:** For more information about changing parameter values after you have completed configuration of the runtime environment using Configuration Manager, see [“Creating or updating a runtime environment” on page 229](#).

- Using PARMGEN:
  - a. In WCONFIG(*#rtename*), add the following parameters:
    - Kpp\_CLASSIC\_PASSPHRASE** set to value PARTIAL, MAX62, or FULL
    - Kpp\_CLASSIC\_SECCLASS** set to the OMEGAMON SAF security class
    - Kpp\_CLASSIC\_SAFAPPL** set to the OMEGAMON SAF application ID
  - b. Submit the \$PARSE job to refresh the profile.

Recycle the OMEGAMON Classic started task for the configuration changes to take effect. See the product-specific documentation for more information.

**Note:** For more information about changing parameter values after you have completed configuration of the runtime environment using PARMGEN, see [Scenario RTE03: Changing parameters in an RTE](#).

## How to: Override the currently configured default storage limit within the RKANPARU(KppSYSIN) startup member

In general, when in PARMGEN mode, *any* storage-related parameters are available for customization and overrides. Defaults are set using the IBM-supplied values. In this scenario, you change the storage limit parameter reflected in the KppSYSIN start up member. This topic explains how to perform this task using PARMGEN.

### About this task

This task involves three main steps:

1. Edit the applicable \*\_LIMIT\_EXTEND parameter in the LPAR configuration profile.
2. Run the \$PARSE or \$PARSESV job, as appropriate to recreate the runtime members and jobs.
3. Resubmit the appropriate batch jobs to complete the setup.

Follow this procedure to complete this task using the PARMGEN Workflow user interface.

### Procedure

1. Edit the LPAR configuration profile:
  - a. On the main Workflow panel, set the name of the runtime environment you want to modify and select option 8 to edit its LPAR profile.
  - b. On the Customize PARMGEN Configuration Profile Member panel, select option 1. The profile is displayed.
  - c. Change the appropriate parameters.
    - To modify the storage limit for a z/OS monitoring server, locate the KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND and provide the desired value.

```
Command ==>                                     Scroll ==>
CSR
000916 KDS_TEMS_STORAGE_LIMIT_PRIMARY      20
000917 KDS_TEMS_STORAGE_LIMIT_EXTEND      30
000918 KDS_TEMS_KGL_WTO                     Y
000919 KDS_TEMS_KDC_DEBUG                    N
000920 KDS_TEMS_KLX_TCP_TOLERATERECYCLE    Y
```

- To modify the storage limit for agents running in their own address space, do an EXCLUDE FIND on AGT\_STORAGE and specify the desired values. (For information on EXCLUDE FIND, see [“XF edit macro” on page 426.](#))

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ss
sssss
EDIT          TSTEST.CCAPI.PLB4SYSG.WCONFIG(PLB4SYSG) - 01.02 Columns 00001
00072
Command ==>>>                               Scroll ==>>>
CSR
***** ***** Top of Data
***** *****
- - - - - 1408 Line(s) not
Displayed
001409 KC5_AGT_STORAGE_MINIMUM_EXTEND 384000
001410 KC5_AGT_STORAGE_DETAIL_INT_HR 00
001411 KC5_AGT_STORAGE_DETAIL_INT_MIN 60
- - - - - 130 Line(s) not
Displayed
001542 KC5_X_AGT_STORAGE_LIMIT_PRIMARY 16
001543 KC5_X_AGT_STORAGE_LIMIT_EXTEND 23
001544 KC5_X_AGT_STORAGE_RESERVE_PRI 2048
001545 KC5_X_AGT_STORAGE_RESERVE_EXT 2048
- - - - - 8 Line(s) not
Displayed
001554 KC5_X_AGT_STORAGE_STGDEBUG N
- - - - - 142 Line(s) not
Displayed
001697 KGW_AGT_STORAGE_MINIMUM_EXTEND 256000
001698 KGW_AGT_STORAGE_DETAIL_INT_HR 00
001699 KGW_AGT_STORAGE_DETAIL_INT_MIN 60
- - - - - 106 Line(s) not
Displayed
001806 KGW_X_AGT_STORAGE_LIMIT_PRIMARY 16
001807 KGW_X_AGT_STORAGE_LIMIT_EXTEND 22
001808 KGW_X_AGT_STORAGE_RESERVE_PRI 2048
001809 KGW_X_AGT_STORAGE_RESERVE_EXT 2048
- - - - - 8 Line(s) not
Displayed
001818 KGW_X_AGT_STORAGE_STGDEBUG N
- - - - - 624 Line(s) not
Displayed
002443 KD5_AGT_STORAGE_MINIMUM_EXTEND 300000
002444 KD5_AGT_STORAGE_DETAIL_INT_HR 00
002445 KD5_AGT_STORAGE_DETAIL_INT_MIN 60
- - - - - 81 Line(s) not
Displayed

```

- d. To modify the CUA environment for an OMEGAMON agent, modify its `Kpp_X_*_STORAGE_LIMIT_EXTEND` parameter. The following screen shows a full list of available agent-specific `Kpp_X_AGT_STORAGE_*` PARMGEN profile parameters and their current IBM-supplied configuration default values.

```

***** ***** Top of Data *****
- - - - - 665 Line(s) not Displayed
000666 KDS_TEMS_STORAGE_MINIMUM_EXTEND 768000
000667 KDS_TEMS_STORAGE_LIMIT_PRIMARY 20
000668 KDS_TEMS_STORAGE_LIMIT_EXTEND 23
- - - - - 3 Line(s) not Displayed
000672 KDS_TEMS_STORAGE_DETAIL_LOG_FLAG Y
000673 KDS_TEMS_STORAGE_DETAIL_INT_HR 00
000674 KDS_TEMS_STORAGE_DETAIL_INT_MIN 60
- - - - - 134 Line(s) not Displayed
000809 KDS_X_TEMS_STORAGE_RESERVE_PRI 4096
- - - - - 18 Line(s) not Displayed
000828 KDS_X_TEMS_STORAGE_STGDEBUG N
- - - - - 248 Line(s) not Displayed
001077 Kpp_AGT_STORAGE_MINIMUM_EXTEND 256000
001078 Kpp_AGT_STORAGE_DETAIL_INT_HR 00
001079 Kpp_AGT_STORAGE_DETAIL_INT_MIN 60
- - - - - 54 Line(s) not Displayed
001134 Kpp_X_AGT_STORAGE_LIMIT_EXTEND 22
001135 Kpp_X_AGT_STORAGE_LIMIT_PRIMARY 16
001136 Kpp_X_AGT_STORAGE_RESERVE_PRI 2048
001137 Kpp_X_AGT_STORAGE_RESERVE_EXT 2048
- - - - - 8 Line(s) not Displayed
001146 Kpp_X_AGT_STORAGE_STGDEBUG N
- - - - - 138 Line(s) not Displayed
001285 KC2_X_CICS_STORAGE_MIN_EXTEND 16384
001286 KC2_X_CICS_STORAGE_LIMIT_EXTEND 17
001287 KC2_X_CICS_STORAGE_LIMIT_PRIMARY 17
- - - - - 2 Line(s) not Displayed
001290 KC2_X_CICS_STORAGE_STGDEBUG N
- - - - - 175 Line(s) not Displayed
002788 KD2_X_DB2_STORAGE_LIMIT_PRIMARY 16
002789 KD2_X_DB2_STORAGE_LIMIT_EXTEND 18
- - - - - 6 Line(s) not Displayed
002796 KD2_X_DB2_STORAGE_MIN_PRIMARY 512
002797 KD2_X_DB2_STORAGE_MIN_EXTEND 8192
- - - - - 2 Line(s) not Displayed
002800 KD2_X_DB2_STORAGE_STGDEBUG N
- - - - - 193 Line(s) not Displayed
003468 KI2_X_IMS_STORAGE_STGDEBUG N
- - - - - 6 Line(s) not Displayed
003475 KI2_X_IMS_STORAGE_RESERVE_PRI 2048
003476 KI2_X_IMS_STORAGE_RESERVE_EXT 2048
003477 KI2_X_IMS_STORAGE_MIN_PRIMARY 4096
003478 KI2_X_IMS_STORAGE_MIN_EXTEND 20000
003479 KI2_X_IMS_STORAGE_LIMIT_EXTEND 23
003480 KI2_X_IMS_STORAGE_LIMIT_PRIMARY 16
- - - - - 134 Line(s) not Displayed
004483 KM2_X_MVS_STORAGE_MIN_EXTEND 76800
004484 KM2_X_MVS_STORAGE_RESERVE_PRI 2048
004485 KM2_X_MVS_STORAGE_LIMIT_PRIMARY 20
004486 KM2_X_MVS_STORAGE_LIMIT_EXTEND 23
- - - - - 6 Line(s) not Displayed
004493 KM2_X_MVS_STORAGE_STGDEBUG N
- - - - - 161 Line(s) not Displayed
004906 KON_X_VTAM_STORAGE_MIN_PRIMARY 1024
004907 KON_X_VTAM_STORAGE_MIN_EXTEND 60000
004908 KON_X_VTAM_STORAGE_LIMIT_PRIMARY 20
004909 KON_X_VTAM_STORAGE_LIMIT_EXTEND 23
004910 KON_X_VTAM_STORAGE_RESERVE_PRI 2048
004911 KON_X_VTAM_STORAGE_RESERVE_EXT 4096
- - - - - 10 Line(s) not Displayed
004922 KON_X_VTAM_STORAGE_STGDEBUG N
- - - - - 158 Line(s) not Displayed
006978 KDF_X_SMS_STORAGE_MIN_EXTEND 60000
006979 KDF_X_SMS_STORAGE_LIMIT_EXTEND 22
006980 KDF_X_SMS_STORAGE_LIMIT_PRIMARY 17
006981 KDF_X_SMS_STORAGE_RESERVE_PRI 2048
- - - - - 11 Line(s) not Displayed
006993 KDF_X_SMS_STORAGE_STGDEBUG N
- - - - - 235 Line(s) not Displayed
***** ***** Bottom of Data *****

```

The Kpp codes and the products they represent are listed in [Product codes](#).

- e. Save the changes and return to the main Workflow panel.
2. Recreate the runtime environment members and jobs.
    - a. From the main menu, select option 10.  
The \$PARSE/\$PARSESV: Create the RTE Members and Jobs panel is displayed.

- b. Select the \$PARSE (or \$PARSESV) composite job or the appropriate \$PARSE%% library specific job.  
The JCL is presented.
    - c. Review the job and make any required adjustments, then submit it and return to the main Workflow panel.
  3. Edit and submit the batch jobs to complete the setup.
    - a. Select option 11 from the main menu.  
The Submit Batch Job to Complete PARMGEN Setup panel is displayed
    - b. If system variables are enabled, select option 5 and submit the KCIJVUPV job.
    - c. (Optional, but best practice) Select option 12 and submit the KCIJcCPR job to backup the product libraries.
    - d. Select option 13 to submit KCIJcW2R to copy the work libraries to the production libraries.

## Result

The LPAR configuration profile is updated, and the KppSYSIN members are updated with the new values.

## How to: Connect agents on local RTE and agents on remote RTEs to the HUB TEMS

Agents on different RTEs can be configured to report to the same HUB TEMS. This topic explains how to perform this task using PARMGEN.

Decide the primary TEMS, regardless if it is a Hub or a Remote TEMS, that the agents connect to. If you enable the backup TEMS feature by changing the agent's Kpp\_TEMS\_BKUP1\_\* parameters, you must also decide the backup TEMS that the agents connect to.

Refer to the following configuration scenario among 3 RTEs in different LPARs to understand how to connect agents on different RTEs to the HUB TEMS. The LPARs are:

- LPAR 1: RTE\_NAME = SYSA (&sysname = SYSA; &sysplex = TESTPLEX; &sysiphostname = SYSA)
- LPAR 2: RTE\_NAME = SYSB (&sysname = SYSB; &sysplex = TESTPLEX; &sysiphostname = SYSB)
- LPAR 3: RTE\_NAME = SYSC (&sysname = SYSC; &sysplex = TESTPLEX; &sysiphostname = SYSC)

The components and configurations on each RTE are different:

- SYSA RTE configures the following products:
  - A Hub TEMS (KDS)
  - OMEGAMON enhanced 3270 User Interface (KOB)
  - OMEGAMON for Db2 (KD5)
  - OMEGAMON for IMS (KI5)
  - OMEGAMON for Networks (KN3)

KD5, KI5, and KN3 agents report directly to the local z/OS Hub TEMS via IPPPIPE and SNA protocols. Take the default values in PARMGEN for most of the following parameters in the LPAR RTE profile in WCONFIG. You can define most of these parameter values in option 1 (Set up/Refresh PARMGEN work environment -KCIJPCFG). The backup TEMS feature is not enabled on this RTE.

- a. Specify common RTE parameters values during KCIJPCFG setup depending on preferred RTE scenario.

```
RTE_TEMS_CONFIGURED_FLAG      y
RTE_TEMS_NAME_NODEID         "SYSA:CMS"
```

- b. Specify typical z/OS TEMS common parameters.
    - Specify the TEMS type on this RTE as HUB.

```
KDS_TEMS_TYPE                 HUB
```

- Specify the communication protocols in priority sequence to be used by the local TEMS to communicate with other ITM components such as another TEMS, Agents, TEPS, etc. Valid values are "IPPIPE", "IP", "SNA", "IP6PIPE", "IP6", "IPSPIPE", and "IP6SPIPE".

```
KDS_TEMS_COMM_PROTOCOL1      IPPPIPE
KDS_TEMS_COMM_PROTOCOL2      SNA
```

- Specify the protocol port number for the HUB TEMS, which must be used across the enterprise. Remote TEMS and Agents connecting to the Hub TEMS must use the same port numbers.

```
KDS_TEMS_TCP_PIPE_PORT_NUM  1918 * IP.PIPE
```

- Specify the TEMS VTAM information. You can take default values for the KDS\_TEMS\_VTAM\_APPL\_GLB\_BROKER and KDS\_TEMS\_VTAM\_APPL\_LLB\_BROKER parameters, or use different values. The value CTDHDSL B is used across this scenario.

```
KDS_TEMS_VTAM_LU62_DLOGMOD    CANCTDCS
KDS_TEMS_VTAM_LU62_MODETAB    KDSMTAB1
KDS_TEMS_VTAM_NETID           USCAC001
KDS_TEMS_VTAM_APPL_GLB_BROKER CTDHDSL B
KDS_TEMS_VTAM_APPL_LLB_BROKER CTDHDSL B
KDS_TEMS_VTAM_APPL_KDS_VTAMID CTDDSDS
KDS_TEMS_VTAM_APPL_MQ         CTDDSMQ
```

- c. Specify typical common agent parameters. Only OMEGAMON for Db2 (KD5) parameters are listed. Other agents have similar parameters.

- Specify the communication protocols in priority sequence to be used to communicate with other ITM components such as the TEMS, agents, TEPS, etc. Valid values are "IPPIPE", "IP", "SNA", "IP6PIPE", "IP6", "IPSPIPE", and "IP6SPIPE".

```
KD5_AGT_COMM_PROTOCOL1      IPPPIPE
KD5_AGT_COMM_PROTOCOL2      SNA
```

- Specify protocol port numbers for agent to connect to TEMS.

```
KD5_TEMS_TCP_PIPE_PORT_NUM  1918 * IP.PIPE
```

- Specify values that describe the primary TEMS the agents connect to.

```
KD5_TEMS_LOCAL_CONNECT_FLAG  Y
KD5_TEMS_NAME_NODEID         "SYSA:CMS"
```

- Specify primary TEMS TCP/IP information and agent local TCP/IP information.

```
KD5_TEMS_TCP_HOST            "SYSA"
KD5_AGT_TCP_HOST             "SYSA"
```

- Specify primary TEMS VTAM information and agent's local VTAM and logon information.

```
KD5_TEMS_VTAM_LU62_DLOGMOD    CANCTDCS
KD5_TEMS_VTAM_LU62_MODETAB    KDSMTAB1
KD5_TEMS_VTAM_NETID           USCAC001
KD5_TEMS_VTAM_APPL_LLB_BROKER CTDHDSL B
KD5_AGT_VTAM_NODE            CTDD5N
```

- Specify agent's APPLIDs.

```
KD5_AGT_VTAM_APPL_OPERATOR    CTDD50R
KD5_AGT_VTAM_APPL_KD5INVPO    CTDD5VP
KD5_AGT_VTAM_APPL_NCS         CTDD5NC
```

|                      |         |
|----------------------|---------|
| KD5_AGT_VTAM_APPL_AA | CTDD5AA |
|----------------------|---------|

Based on the customizations, the xKANPARU(KppENV) runtime members reflect the KDE\_TRANSPORT parameter and CT\_CMSLIST parameter based on the specified values, in the preferred order of the protocols, which is IPPIPE first and then try SNA if connection by IP wire is not available.

- SYSB RTE configures the following products:
  - A local z/OS Remote TEMS (KDS) reporting to the z/OS Hub on SYSA
  - OMEGAMON for Db2 (KD5)
  - OMEGAMON for IMS (KI5)
  - OMEGAMON for Networks (KN3)

No OMEGAMON enhanced 3270 User Interface (KOB) is configured. KD5, KI5, and KN3 agents report to the local z/OS Remote TEMS via IPPIPE and SNA protocols, not directly to the Hub to reduce the burden on the SYSA Hub TEMS.

Take the default values in PARMGEN for most of the following parameters in the LPAR RTE profile in WCONFIG. You can define most of these parameter values in option 1 (Set up/Refresh PARMGEN work environment -KCIJPCFG).

- a. Specify common RTE parameters values during KCIJPCFG set-up depending on preferred RTE scenario.

|                          |            |
|--------------------------|------------|
| RTE_TEMS_CONFIGURED_FLAG | y          |
| RTE_TEMS_NAME_NODEID     | "SYSB:CMS" |

- b. Specify typical z/OS TEMS common parameters.

- Specify the TEMS type on this RTE as REMOTE.

|               |        |
|---------------|--------|
| KDS_TEMS_TYPE | REMOTE |
|---------------|--------|

- Specify the communication protocols in priority sequence to be used by the local TEMS to communicate with other ITM components such as another TEMS, agents, TEPS, etc. Valid values are "IPPIPE", "IP", "SNA", "IP6PIPE", "IP6", "IPSPIPE", and "IP6SPIPE".

|                         |        |
|-------------------------|--------|
| KDS_TEMS_COMM_PROTOCOL1 | IPPIPE |
| KDS_TEMS_COMM_PROTOCOL2 | SNA    |

- Specify the protocol port number for the remote TEMS same as the port number that is used by the Hub TEMS.

|                            |                |
|----------------------------|----------------|
| KDS_TEMS_TCP_PIPE_PORT_NUM | 1918 * IP.PIPE |
|----------------------------|----------------|

- Specify the TEMS VTAM information.

|                               |          |
|-------------------------------|----------|
| KDS_TEMS_VTAM_LU62_DLOGMOD    | CANCTDCS |
| KDS_TEMS_VTAM_LU62_MODETAB    | KDSMTAB1 |
| KDS_TEMS_VTAM_NETID           | USCAC001 |
| KDS_TEMS_VTAM_APPL_GLB_BROKER | CTDHSDLB |
| KDS_TEMS_VTAM_APPL_LLB_BROKER | CTDDSLB  |
| KDS_TEMS_VTAM_APPL_KDS_VTAMID | CTDDSDS  |
| KDS_TEMS_VTAM_APPL_MQ         | CTDDSMQ  |

- Specify its Hub TEMS values. These parameters are key settings for the Remote TEMS that tell PARMGEN where the HUB TEMS is and how to set up the RTEMS KDSENV and KDCSSITE runtime members. In this scenario, you must specify the values of the Hub TEMS on RTE SYSA.

```

KDS_HUB_TEMS_NAME_NODEID      "SYSA:CMS"      * Hub RTE_TEMS_NAME_NODEID
KDS_HUB_TCP_HOST              "SYSA"         * Hub KDS_TEMS_TCP_HOST
KDS_HUB_TCP_PIPE_PORT_NUM    "1918"         * Hub KDS_TEMS_TCP_PIPE_PORT_NUM
KDS_HUB_VTAM_APPL_GLB_BROKER "CTDHDSL B"    * Hub
KDS_TEMS_VTAM_APPL_GLB_BROKER
KDS_HUB_VTAM_NETID           "USCAC001"     * Hub KDS_TEMS_VTAM_NETID

```

- c. Specify typical common agent parameters. Only OMEGAMON for Db2 (KD5) parameters are listed. Other agents have similar parameters.

- Specify the communication protocols in priority sequence to be used to communicate with other ITM components such as the TEMS, agents, TEPS, etc. Valid values are "IPPIPE", "IP", "SNA", "IP6PIPE", "IP6", "IPSPIPE", and "IP6SPIPE".

```

KD5_AGT_COMM_PROTOCOL1      IPPPIPE
KD5_AGT_COMM_PROTOCOL2      SNA

```

- Specify protocol port numbers for agent to connect to TEMS.

```

KD5_TEMS_TCP_PIPE_PORT_NUM  1918 * IP.PIPE

```

- Specify values that describe the primary TEMS the agents connect to.

```

KD5_TEMS_LOCAL_CONNECT_FLAG      Y
KD5_TEMS_NAME_NODEID            "SYSB:CMS"

```

- Specify primary TEMS TCP/IP information and agent local TCP/IP information.

```

KD5_TEMS_TCP_HOST              "SYSB"
KD5_AGT_TCP_HOST               "SYSB"

```

- Specify primary TEMS VTAM information and agent's local VTAM and logon information.

```

KD5_TEMS_VTAM_LU62_DLOGMOD      CANCTDCS
KD5_TEMS_VTAM_LU62_MODETAB      KDSMTAB1
KD5_TEMS_VTAM_NETID             USCAC001
KD5_TEMS_VTAM_APPL_LLB_BROKER   CTDDSLB
KD5_AGT_VTAM_NODE               CTDD5N

```

- Specify agent's APPLIDs.

```

KD5_AGT_VTAM_APPL_OPERATOR      CTDD50R
KD5_AGT_VTAM_APPL_KD5INVPO      CTDD5VP
KD5_AGT_VTAM_APPL_NCS           CTDD5NC
KD5_AGT_VTAM_APPL_AA            CTDD5AA

```

- d. You can enable the backup TEMS feature for the agents to report to the z/OS Hub TEMS on RTE SYSA in case the z/OS RTEMS local on RTE SYSB gets an ABEND. In this scenario, uncomment out the following parameters and specify the values of the Hub TEMS, which become the second entries in CT\_CMSLIST for RKANPARU(KD5ENV).

```

KD5_TEMS_BKUP1_NAME_NODEID      "SYSA:CMS"
KD5_TEMS_BKUP1_TCP_HOST         "SYSA"
KD5_TEMS_BKUP1_VTAM_LU62_DLOGMOD CANCTDCS
KD5_TEMS_BKUP1_VTAM_APPL_LLB_BKR CTDHDSL B
KD5_TEMS_BKUP1_VTAM_NETID       USCAC001

```

Based on the customizations, the xKANPARU(KppENV) runtime members reflect the KDE\_TRANSPORT parameter and CT\_CMSLIST parameter based on the specified values, in the preferred order of the protocols, which is IPPPIPE first and then try SNA if connection by IP wire is not available. The KD5 agent is configured to report to a backup TEMS, which in this scenario is the Hub TEMS on SYSA, if the local RTEMS on SYSB is not running.

- SYSC RTE configures the following products:
  - OMEGAMON for Db2 (KD5)
  - OMEGAMON for IMS (KI5)
  - OMEGAMON for Networks (KN3)

No TEMS (KDS) or OMEGAMON enhanced 3270 User Interface (KOB) is configured. KD5, KI5, and KN3 Agents report to z/OS Hub TEMS configured in the other LPAR (RTE\_NAME = SYSA) via IPPIPE and SNA protocols.

Take the default values in PARMGEN for most of the following parameters in the LPAR RTE profile in WCONFIG. You can enable the backup TEMS feature on this RTE to have the agents report to the HUB TEMS on SYSA or the RTEMS on SYSB. However, in this scenario the backup TEMS feature is not enabled.

- Specify common RTE parameters values during KCIJPCFG set-up depending on preferred RTE scenario. In this scenario, no TEMS is configured in the RTE.

```
RTE_TEMS_CONFIGURED_FLAG      N
RTE_TEMS_NAME_NODEID         ""
```

When RTE\_TEMS\_CONFIGURED\_FLAG=N, PARMGEN ignores the KDS\_\* parameters in the profile.

- Specify typical common agent parameters. Only OMEGAMON for Db2 (KD5) parameters are listed. Other agents have similar parameters.
  - Specify the communication protocols in priority sequence to be used to communicate with other ITM components such as the TEMS, agents, TEPS, etc. Valid values are "IPPIPE", "IP", "SNA", "IP6PIPE", "IP6", "IPSPIPE", and "IP6SPIPE".

```
KD5_AGT_COMM_PROTOCOL1      IPPIPE
KD5_AGT_COMM_PROTOCOL2      SNA
```

- Specify protocol port numbers for agent to connect to TEMS.

```
KD5_TEMS_TCP_PIPE_PORT_NUM  1918 * IP.PIPE
```

- Specify values that describe the primary TEMS the agents connect to. If the primary TEMS that this agent connects to is configured on another RTE, or running on a non-z/OS platform, specify 'N' to the KD5\_TEMS\_LOCAL\_CONNECT\_FLAG parameter, then customize the KD5\_TEMS\_\* parameters accordingly to point to the non-local primary TEMS.

```
KD5_TEMS_LOCAL_CONNECT_FLAG  N
KD5_TEMS_NAME_NODEID         "SYSA:CMS"
```

- Specify primary TEMS TCP/IP information and agent local TCP/IP information.

```
KD5_TEMS_TCP_HOST           "SYSA"
KD5_AGT_TCP_HOST            "SYSC"
```

- Specify primary TEMS VTAM information and agent's local VTAM and logon information.

```
KD5_TEMS_VTAM_LU62_DLOGMOD   CANCTDCS
KD5_TEMS_VTAM_LU62_MODETAB   KDSMTAB1
KD5_TEMS_VTAM_NETID          USCAC001
KD5_TEMS_VTAM_APPL_LLB_BROKER CTDHDSL B
KD5_AGT_VTAM_NODE            CTDD5N
```

- Specify agent's APPLIDs.

```
KD5_AGT_VTAM_APPL_OPERATOR   CTDD50R
KD5_AGT_VTAM_APPL_KD5INVPO   CTDD5VP
KD5_AGT_VTAM_APPL_NCS        CTDD5NC
KD5_AGT_VTAM_APPL_AA         CTDD5AA
```

Based on the customizations, the xKANPARU(KppENV) runtime members reflect the KDE\_TRANSPORT parameter and CT\_CMSLIST parameter based on the specified values, in the preferred order of the protocols, which is IPPIPE first and then try SNA if connection by IP wire is not available.

## How to: Remove SNA protocol from an RTE

After you set up the RTE, you might find that the SNA protocol is no longer needed. You can remove the SNA protocol by changing corresponding parameters. This topic explains how to perform this task using PARMGEN.

### About this task

To remove the SNA protocol, edit the parameters in the configuration profile, re-create the RTE and jobs, and then copy the runtime members from the work libraries to the production libraries.

### Procedure

1. Define the RTE that you want to configure.
  - a. Start the installation and configuration tool by running the command EX 'gbl\_target\_hilev.TKANCUS' where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.  
The Welcome screen for the z/OS Installation and Configuration Tools is displayed.
  - b. Select 3 (Configuration Workflow), and press Enter.
  - c. Specify the information of the RTE that you want to configure including **GBL\_USER\_JCL**, **RTE\_PLIB\_HILEV**, and **RTE\_NAME**, and press Enter.  
**PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** is displayed.
2. Edit the parameters in the configuration profile.
  - a. From the Workflow - Primary Option Menu, select 2 (**Customize PARMGEN configuration profiles**).  
The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
  - b. Select 1 to edit the RTE profile.
  - c. Remove the SNA value from all **KDS\_TEMS\_COMM\_PROTOCOLn** parameters and **Kpp\_AGT\_COMM\_PROTOCOLn** parameters.
  - d. Save the changes and return to the Workflow - Primary Options Menu panel.
3. Re-create the RTE and jobs.
  - a. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.
  - b. Select option 1 to submit the \$PARSE job (or the \$PARSESV job, if variables are enabled).
  - c. Return to the Workflow - Primary Options Menu panel.
4. Copy the runtime members from the work libraries to the production libraries.
  - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu.  
The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.
  - b. Select option 11 and submit the KCIJPCPR job to back up the production libraries.
  - c. Select option 12 and submit the KCIJPW2R job (or the KCIJPW1R job) to copy the work libraries to the production libraries.

### Result

The SNA protocol is safely removed from the RTE.

## How to: Configure the z/OS Remote TEMS for Fault Toleration Option (FTO)

The Remote TEMS in your RTE can be configured to participate in Hot Standby configuration between distributed Hub TEMS for FTO. This topic explains how to perform this task using PARMGEN.

### Before you begin

Make sure that you configure an RTE with a Remote TEMS. See the following table for the QCF scenarios that you can follow to create an RTE with a Remote TEMS based on your requirements.

| Scenario              | Template name | RTE type           | Monitoring server type | System variables | Description                                                                                                                     |
|-----------------------|---------------|--------------------|------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">QCF03</a> | \$MDLRSBV     | Sharing-with-base  | Remote                 | Yes              | RTE configuration template for sharing-with-base read-only libraries RTE (Remote TEMS and Agents with variables enabled)        |
| <a href="#">QCF05</a> | @MDLRF        | Full               | Remote                 | No               | RTE configuration template for full, standalone RTE (Remote TEMS and Agents)                                                    |
| <a href="#">QCF06</a> | @MDLRFV       | Full               | Remote                 | Yes              | RTE configuration template for full, standalone RTE (Remote TEMS and Agents with variables enabled)                             |
| <a href="#">QCF07</a> | @MDLRSB       | Sharing-with-base  | Remote                 | No               | RTE configuration template for sharing-with-base read-only libraries RTE (Remote TEMS and Agents)                               |
| <a href="#">QCF08</a> | @MDLRSS       | Sharing-with-SMP/E | Remote                 | No               | RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Remote TEMS and Agents)                        |
| <a href="#">QCF09</a> | @MDLRSSV      | Sharing-with-SMP/E | Remote                 | Yes              | RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Remote TEMS and Agents with variables enabled) |

## About this task

Enable the `KDS_X_HUB_CMS_FTO_FLAG` and set values for other related parameters to connect a z/OS Remote TEMS to a non-z/OS Hub TEMS with the Hot Standby feature enabled.

## Procedure

1. Define the RTE that you want to configure.
  - a. Start the installation and PARMGEN by running the command `EX 'gbl_target_hilev.TKANCUS'` where `gbl_target_hilev` is the high-level qualifier for the SMP/E target libraries where the products are installed.  
The Welcome screen is displayed.
  - b. Select 3 (Configuration Workflow), and press Enter.
  - c. Specify the information of the RTE that you want to configure including `GBL_USER_JCL`, `RTE_PLIB_HILEV`, and `RTE_NAME`, and press Enter.  
**PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** is displayed.
2. Edit the parameters in the configuration profile.
  - a. From the Workflow - Primary Option Menu, select 2 (**Customize PARMGEN configuration profiles**).

- The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
- b. Select 1 to edit the RTE profile.
  - c. Set the communication protocols and related parameters.
    - **KDS\_TEMS\_COMM\_PROTOCOLn**
    - **KDS\_TEMS\_TCP\_\*\_PORT\_NUM**
  - d. Set the **KDS\_HUB\_\*** parameters to the appropriate values for the primary hub monitoring server to which this remote TEMS reports.
    - **KDS\_HUB\_TEMS\_NAME\_NODEID**
    - **KDS\_HUB\_TCP\_HOST**
    - **KDS\_HUB\_TCP\_\*\_PORT\_NUM** (if the hub uses IP-related protocol)
    - **KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER** (if the hub uses SNA)
    - **KDS\_HUB\_VTAM\_NETID** (if the hub uses SNA)
  - e. Set the **KDS\_X\_HUB\_CMS\_FTO\_FLAG** parameter to YES.  
**CMS\_FTO=YES** is generated in the xKANPARU{KDSENV} TEMS runtime member.
  - f. Set the **KDS\_X\_HUB\_BKUP1\_\*** parameters according to the protocols that are enabled to specify the Standby Hub TEMS.
    - Set the **KDS\_X\_HUB\_BKUP1\_TCP\_HOST** parameter to the IP hostname where the Standby HUB TEMS is running if IP-related protocol is enabled.
    - Set the **KDS\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID** and **KDS\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBKR** parameters if SNA protocol is enabled by the Standby Hub TEMS.
  - g. Save the changes and return to the Workflow - Primary Options Menu panel.
3. Re-create the RTE and jobs.
    - a. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.
    - b. Press F5 to enter the library-specific \$PARSE\* jobs.
    - c. Select option 2 and submit the \$PARSEPR job.
    - d. Return to the Workflow - Primary Options Menu panel.
  4. Copy the runtime members from the work libraries to the production libraries.
    - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu.  
The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.
    - b. Select option 11 and submit the KCIJPCPR job to back up the production libraries.
    - c. Select option 12 and submit the KCIJPW2R job to copy the work libraries to the production libraries.

## How to: Collect diagnostic information using PDCOLLECT

Use the Problem Determination Data Collection (PDCOLLECT) tool to collect diagnostic information. This topic explains how to perform this task using PARMGEN.

### Before you begin

**Note:** If you use Configuration Manager as your configuration tool, see [“Collecting diagnostic data using PDCOLLECT”](#) on page 366.

Use the WCONFIG(KCI\$SPDC) KCIPCOL imbed of the KCIJPCOL PDCOLLECT job to collect diagnostic information from the machine on which the product address spaces are executed.

To use this tool, you must install SDSF and are licensed to use it. If you do not have SDSF, you can copy the complete address space logs, including the JES output, RKLVLG, RKPDLG, RKPDLG, SYSPRINT, and so on, into a data set. The DCB information for the output data set can be as follows:

```
Organization: PS
Record format: VB
Record length: 240
Block size: 27998
```

Use the following format:

```
/* ----- BEGIN - USER SECTION: OVERRIDE ----- *
//KCIJPCOL EXEC PGM=IKJEFT1A,REGION=0M,
//          DYNAMNBR=99,COND=EVEN
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSTSIN DD *
  EX '&gbl_target_hilev.TKANCMD(KCIJPCOL)' +
    'JOBOUT(data_set_name) +
      SYS(&rte_name) +
      RHILEV(&rte_hilev) +
      RVHILEV(&rte_vsam_hilev) +
      BASEHLEV(&rte_hilev.&rte_name.R) +
      PGNJCL(&gbl_user_jcl) +
      PGNRTE(&rte_plib_hilev.&rte_name.WCONFIG) +
      INCLQA1(Y)'
/*
//* ----- END -USER SECTION: OVERRIDE ----- *
```

## About this task

The PARMGEN KCIJPCOL job uses the problem determination data collection tool KCIJPCOL to collect data that includes the following aspects:

- System configuration
- Runtime environment (RTE) libraries, including configuration files
- Network information, such as output from the **netstat** utility
- Self-describing agent (SDA) information:
  - Results of **ls -al** for your *rte/kds/support* and *rte/kds/support/TEMS*
  - Contents for *spawn\_cmd.sh* and *spawn\_cmd.trs*
  - Results of **java - version**
- Output from the specified job, including logs for the requested started task

Before you submit the \$PARSE\* "Create runtime members and jobs", review the RTE's WCONFIG(KCI\$SPDC) override imbed to KCIJPCOL to decide whether you have additional collection options you want to enable.

**Note:** The WCONFIG(KCI\$SPDC) imbed might not be the latest version. Check the RTE's IKANSAMU(KCI\$SPDC) template for changes to the imbed if you want to implement it in your user copy in WCONFIG(KCI\$SPDC), and then rerun the \$PARSESM job (which recreates the runtime members from IKANSAMU to WKANSAMU) and KCIJPW2R job to refresh the KCIJPCOL job.

## Procedure

1. Define the RTE that you want to configure.
  - a. Start the installation and configuration tool by running the command EX *'gbl\_target\_hilev.TKANCUS'* where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.  
The Welcome screen for the z/OS Installation and Configuration Tools is displayed.
  - b. Select 3 (Configuration Workflow), and press Enter.
  - c. Specify the information of the RTE that you want to configure including **GBL\_USER\_JCL**, **RTE\_PLIB\_HILEV**, and **RTE\_NAME**, and press Enter.  
**PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** is displayed.

2. Type U or UTIL in the Option line and press Enter to go to Utilities panel.
3. Select option 32 to configure the KCIJPCOL job.
  - Default parameters are provided in the USER SECTION. Add your advanced PDCOLLECT parameters, if any.
  - The JOB(NAME(IBM\*)) parameter of KCIJPCOL is set to collect data based on the global RTE started task prefix value of RTE\_STC\_PREFIX=IBM. If you use started task names different from NAME(IBM\*), modify the NAME() parameter accordingly. Each KCIJPCOL submission collects data for STCs matching NAME(IBM\*) convention.
  - You can choose whether to include the HUB TEMS &rte\_plib\_hilev.&rte\_name.RKDS\* VSAM datasets that are referenced in the QA1\* DDNAMEs in the IBMDS TEMS started task. The default value is Y.
  - For %&var% parameter variables, do not modify actual PARMGEN profile parameters that are referenced as RTE\_HILEV\_BASEHLEV, RTE\_STC\_PREFIX, GBL\_USER\_JCL, or RTE\_PLIB\_HILEV. RTE\_NAME. PARMGEN's \$PARSE\* job automatically substitutes these variables with actual customization values that are supplied in the LPAR RTE profile (WCONFIG(RTE\_NAME)). WCONFIG(KCI\$SPDC) override imbed is embedded into xKANSAMU(KCIJPCOL) job by the \$PARSE\* "Create runtime and members" job.

Assume that an environment has the following settings:

- RTE\_NAME=\$DEFAULT
- RTE\_TYPE=SHARING RTE (allocates its data sets as **TDITN.FTU.RTENVSM.\$DEFAULT.RKANPARU**, **TDITN.FTU.RTENVSM.\$DEFAULT.RKANDATV**, **TDITN.FTU.RTEVSAM.\$DEFAULT.RKDSSITF**, and so on)
- This LPAR sharing RTE shares a read-only set of base libraries that are called '**TDITN.FTU.RTEBASEA.RK\***' (that is, **TDITN.FTU.RTEBASEA.RKANCMD**, **TDITN.FTU.RTEBASEA.RKANMOD**, **TDITN.FTU.RTEBASEA.RKANMODL**, and so on)
- This \$DEFAULT sharing RTE uses a different HLQ for its PARMGEN work data sets (**TDITN.FTU.PGNWORK.\$DEFAULT.W\***, that is, **TDITN.FTU.PGNWORK.\$DEFAULT.WCONFIG**, **TDITN.FTU.PGNWORK.\$DEFAULT.WKANPARU**, and so on)

The settings of the KCIJPCOL job are as follows:

```

/* ----- BEGIN - USER SECTION: OVERRIDE ----- *
//KCIJPCOL EXEC PGM=IKJEFT1A,REGION=0M,
              DYNAMNBR=99,COND=EVEN
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSTSIN DD *
  EX 'TDITN.FTU.RTEBASEA.RKANCMD(KCIJPCOL)' +
     'JOB(NAME(IBM*)) NO(STC*) +
     SYS($DEFAULT) +
     RHILEV(TDITN.FTU.RTENVSM) +
     RVHILEV(TDITN.FTU.RTEVSAM) +
     BASEHLEV(TDITN.FTU.RTEBASEA.R) +
     PGNJCL(TDITNT.COMMON.PARMGEN.GLOBAL.JCL) +
     PGNRTE(TDITN.FTU.PGNWORK.$DEFAULT.WCONFIG) +
     INCLQA1(Y)'
/*
/* ----- END - USER SECTION: OVERRIDE ----- *
//*****

```

4. Submit the job.

## Result

The file &SYSUID.KCIJPCOL.PDCOLPDS.TRS is generated. You can FTP the output data set to IBM Support Center.

## How to: Configure an autonomous agent to send SNMP events

Customize the autonomous agent parameters in the product-specific WCONFIG(Kpp\$PENV) imbed for the agent to send SNMP events. This topic explains how to perform this task using PARMGEN.

## Before you begin

Back up the WCONFIG, RKANPARU, and RKANDATV datasets of the RTE where the agent resides.

## About this task

In the following instructions, the variable *pp* is the two-digit product code of the agent that you configure.

## Procedure

1. Add the following parameters to the WCONFIG(Kpp\$PENV) imbed.

```
*IRA_AUTONOMOUS_MODE=Y
*IRA_AUTONOMOUS_LIMIT=50
*IRA_DEBUG_AUTONOMOUS=N
*IRA_EIF_DEST_CONFIG=ppEVDST.RKANDATV
*IRA_EIF_MSG_LOCALE=en_US
*IRA_EVENT_EXPORT_CHECKUSAGE_INTERVAL=180
*IRA_EVENT_EXPORT_EIF=Y
IRA_EVENT_EXPORT_SIT_STATS=N
*IRA_EVENT_EXPORT_SIT_STATS_DETAIL=N
*IRA_EVENT_EXPORT_SNMP_TRAP=Y
*IRA_EVENT_EXPORT_SNMP_TRAP_CONFIG=ppTRAPS.RKANDATV
*IRA_LOCALCONFIG_DIR=RKANDATV
```

You can copy these parameters from the common WCONFIG(KAG\$PENV) imbed.

2. Customize and enable the following parameters.

```
IRA_AUTONOMOUS_MODE=Y
IRA_EVENT_EXPORT_SNMP_TRAP=Y
IRA_EVENT_EXPORT_SNMP_TRAP_CONFIG=ppTRAPS.RKANDATV
```

3. Create a **ppTRAPS** member in the *RTE\_HILEV.RTE\_NAME.RKANDATV* dataset by using one of the following methods.

- Create the **ppTRAPS** member locally by using the following code sample:

```
<SNMP>
  <TrapDest name="OMNIONE" Address="hostname" />
  <Situation name="*" Target="OMNIONE" />
</SNMP>
```

By changing the value of the parameter **IRA\_EVENT\_EXPORT\_SNMP\_TRAP\_CONFIG**, you can define one member to be shared by multiple agents that have access to the *RTE\_PLIB\_HILEV.RTE\_NAME.RKANDATV* dataset.

- Create the **ppTRAPS** by using the Central Configuration Server (CCS) as described in ITM Administrator's Guide. Specify the following parameters in WCONFIG(Kpp\$PENV), uncomment out the parameters, and give values to the parameters accordingly.

```
** *****
** Private Situations parameters:
** *****
** Central Configuration Server (CCS) parameters:
** Note: Instead of defining RKANDATV(ppTRAPS) locally, customize
**       the following variables accordingly:
** *****
*IRA_CONFIG_SERVER_URL=xxx
*IRA_CONFIG_SERVER_USERID=xxx
*IRA_CONFIG_SERVER_PASSWORD=xxx
*IRA_CONFIG_SERVER_FILE_PATH=xxx
*IRA_CONFIG_SERVER_FILE_NAME=xxx
*IRA_SERVICE_INTERFACE_CONFIG_INTERVAL=xxx
*IRA_PRIVATE_SITUATION_OUTPUT_LOCAL=Y or N
```

**Note:** The agent downloads the latest configuration files from the CCS during startup to update the RKANDATV members, including **ppTRAPS**.

Repeat this step for other agents by updating their product-specific WCONFIG(Kpp\$PENV) member so that their corresponding xKANPARU(KppENV) file is updated. If you want all z/OS agents to share this

change, update the parameters in the common WCONFIG(KAG\$PENV) member. This common imbed is appended in xKANPARU(KppENV) of every z/OS agent in this RTE.

4. Run the WCONFIG(\$PARSEPR) job to re-create the WKANPARU(KppENV) files of the RTE and update the WCONFIG(Kpp\$PENV) user imbed.
5. Run the WKANSAMU(KCIJPCPR) and WKANSAMU(KCIJPW2R) jobs of the RTE to refresh the product execution RKANPARU user dataset.
6. Recycle the agent started task. The task name is the value of the parameter **Kpp\_AGT\_STC** in the configuration profile. The default value is *IBMpp*.

## Result

The autonomous agents are configured and send SNMP events.

## How to: Remove subsystems from an RTE

To remove a subsystem from a particular runtime environment, clear out all the runtime members that are no longer used in your production libraries. This topic explains how to perform this task using PARMGEN.

## About this task

To remove subsystems from your runtime environment using PARMGEN, delete the corresponding parameters in the configuration profile, re-run the \$PARSE job and clear out the obsolete members.

## Procedure

1. Define the RTE that you want to configure.
  - a. Start the installation and PARMGEN by running the command **EX 'gbl\_target\_hilev.TKANCUS'** where **gbl\_target\_hilev** is the high-level qualifier for the SMP/E target libraries where the products are installed. The Welcome screen is displayed.
  - b. Select option 3 (Configuration Workflow) to enter PARMGEN.
  - c. Specify the information of the RTE that you want to configure including **GBL\_USER\_JCL**, **RTE\_PLIB\_HILEV**, and **RTE\_NAME**. **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** is displayed.
2. Delete the corresponding parameters in the configuration profile. In the following example, Db2 subsystem SS02 is being deleted from the RTE.
  - a. From the **Workflow - Primary Option Menu**, select option 2 (Customize PARMGEN configuration profiles). The **Customize PARMGEN Configuration Profile Members** panel is displayed.
  - b. Select option 1 to edit the RTE profile.
  - c. Block delete all the **KD2\_DB02\_\*** parameters in the RTE profile.
  - d. Save the changes and return to the **Workflow - Primary Options Menu** panel by pressing F3.
3. Re-create the RTE and jobs.
  - a. Select option 3 (Create this RTE's members and jobs). The **Create the Members and Jobs** panel (KCIP@PR1) is displayed.
  - b. Select option 1 to go over the job profile and then submit the job.
  - c. Press F3 to return to the **Workflow - Primary Options Menu** panel.
4. Clear out the obsolete members in production user libraries.
  - a. Type **U** on the workflow main panel to enter the **Utilities** panel.
  - b. Select option 29 to see the detailed information of KCIJPW1R job. This composite job empties out the production user libraries and then copies the work libraries to the production libraries.
  - c. Type **Submit** in the command line to submit the job.

## Result

The subsystem is removed from the RTE.

## How to: Configure an RTE created by another user

To take over the configuration of an RTE from another user, you need to supply the **GBL\_USER\_JCL**, the RTE high-level qualifier, and your preferred job card information. This topic explains how to perform this task using PARMGEN.

### Procedure

1. Start the installation and PARMGEN by running the following command .

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed. The Welcome screen is displayed.

2. Select option 3 (Configuration Workflow) to enter PARMGEN.
3. Optional: If this is the first time that you invoke PARMGEN using this TSO user ID, you need to specify the high-level qualifier for the SMP/E target data sets: **GBL\_TARGET\_HILEV**. If the high-level qualifier is NONSMS-managed, you also need to supply the **VOLSER**.

4. Specify the information of the RTE that you want to configure by providing the following values:

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. .

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE that you create.

5. In the prompt main PARMGEN workflow window, select option 1 to proceed.
6. Customize your jobcard.
  - a. In the **Customize jobcard data** section, uncomment out the first two lines of the pre-filled value.
  - b. Replace the default jobname with a new one. If you want to establish a common jobcard that any users managing this RTE will submit, use a generic job name like 'PARMGENA'.
  - c. Save your jobcard information by proceeding to the next panel. The customized jobcard is saved in the ISPF user profile pool and persists across ISPF sessions.

### Result

You can now continue to run the jobs or make changes to the configuration using your ID.

## How to: Enable new parameters in *Kpp\$\** user imbeds that are introduced by PARMGEN PTFs

Advanced parameters that are introduced by the PARMGEN PTFs are customized via the parameters in the *Kpp\$\** user imbeds. This topic explains how to perform this task using PARMGEN.

### Before you begin

In each PARMGEN PTF, new advanced parameters might be introduced in the user imbeds. Review the *Kpp\$\** default user imbeds that are provided by the PARMGEN PTF in the *rte\_plib\_hilev.rte\_name.IKAN\** datasets. Go through the description of new parameters to determine which new parameters you want to enable.

### Procedure

1. Add the new parameters to the *rte\_plib\_hilev.rte\_name.WCONFIG(Kpp\$\*)* user imbeds. You must recreate the user imbeds to include the new parameters.
  - a. Rename the existing *rte\_plib\_hilev.rte\_name.WCONFIG(Kpp\$\*)* user imbeds.
  - b. Rerun the *rte\_plib\_hilev.rte\_name.WCONFIG(KCIJPUP1)* job to recreate the *rte\_plib\_hilev.rte\_name.WCONFIG(Kpp\$\*)* user imbeds with default values.

You can also find the KCIJPUP1 job in the PARMGEN utility menu.

2. Customize the parameters in the new `rte_plib_hilev.rte_name.WCONFIG(Kpp$*)` user imbeds.
  - For the parameters that are previously customized, compare their values with the ones in the old `WCONFIG(Kpp$*)` user imbeds that are renamed in [Step 1a](#), and bring the values to the new `WCONFIG(Kpp$*)` user imbeds.
  - For new parameters that you want to enable, uncomment out the parameters in the recreated `rte_plib_hilev.rte_name.WCONFIG(Kpp$*)` user imbeds.
    - If variables are not enabled in the RTE, uncomment out the parameters with exact values.
    - If variables are enabled in the RTE, uncomment out the parameters with variable placeholders.
3. Change the parameter values if needed.
  - If variables are not enabled in the RTE, change the parameter values in the `rte_plib_hilev.rte_name.WCONFIG(Kpp$*)` user imbeds.
  - If variables are enabled in the RTE, change the resolution values of the placeholders in the `GBL_USER_JCL(rte_name)` RTE variables profile.
4. Run the `$PARSE*` job to recreate the RTE's `rte_plib_hilev.rte_name.WKAN*(runtime_member)` where the `Kpp$*` is imbedded.
  - For `Kpp$C*`, run the `$PARSEC` job to recreate runtime members in `WKANCMU` library.
  - For `Kpp$P*`, run the `$PARSEPR` job to recreate runtime members in `WKANPARU` library.
  - For `Kpp$S*`, run the `$PARSESM` job to recreate runtime members in `WKANSAMU` library.
5. Submit the `WKANSAMU(KCIJPW2R)` job to refresh the `RKAN*` libraries when ready to stage the update.
6. Recycle the product started task.

## How to: Validate PARMGEN profile parameter values

The KCIJPVAL job validates the parameter values in PARMGEN profile. The job can be run either as a standalone job from the **Utilities** panel, or be invoked from `$PARSE` or `$PARSESV` job in the `WCONFIG` library. This topic explains how to perform this task using PARMGEN.

### About this task

To validate parameter value settings in customer override `CONFIG` profile members, you need to run the KCIJPVAL job. The job is included in `$PARSE` (Create runtime members and jobs in `WK*`) job and `$PARSESV` (Create runtime members and jobs in `WK*`) job (if System Variables is enabled in the RTE). If the `VALIDATE` step gets a condition code greater than 4 (`COND CODE 0004`), the remaining steps in `$PARSE` job will not be executed unless you correct all the errors in `$VALRPT`. You can also run the KCIJPVAL job outside `$PARSE` from the **Utilities** panel as a standalone job.

### Procedure

1. On the command line of panel **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu (KCIPQPGB)**, type `UTIL` to enter the **Utilities** panel.
2. Select the option 23 (Validate PARMGEN profile parameter values) to run the KCIJPVAL job.
3. Review the job information and submit the job. The job generates a Parameter Validation Report in `hilev.rte.WCONFIG($VALRPT)`.
4. After the job is completed, check the condition code that is returned. If the condition code is greater than 4 (`COND CODE 0004`), you need to go over the validation report and correct the errors.
  - a. On the command line of the **Utilities** panel, type `23s` to see the `$VALRPT` validation report. The validation report contains the following four sections:
    - Parameter Validation Errors.
    - Parameter Values Changed from Defaults.
    - Components Configured in this RTE.

- Parameter Validation Errors.
- b. Review the errors listed in section 1 and section 4 of the validation report and correct the parameter values.
  - c. Resubmit the KCIJPVAL job.

## How to: Use a shared procedure for multiple monitoring servers

You can configure your environment to use the same started task procedure for multiple monitoring servers across different systems in the sysplex. This topic explains how to perform this task using either Configuration Manager or PARMGEN.

### Before you begin

A Tivoli Enterprise Monitoring Server (*monitoring server*) can be configured as one of several types: hub, high-availability hub, remote. By default, the started task procedure for each monitoring server is created to be run as a separate task. The generated procedure is different for each monitoring server by type; for example, the name of the runtime environment, the data set names, and the required DD statements can all vary by monitoring server type.

This default configuration is not suitable for some sites that might have any of the following requirements:

- The SYS1 . PROCLIB (or equivalent procedure library) must be shared across all the systems in the sysplex.
- Only a single, specific agent procedure is allowed (that is, only one procedure per agent).

To satisfy such requirements, you must use a procedure that is the same for all monitoring servers across all systems; it must have the same name, the same contents, and reference the same data sets. To accomplish this setup, you can configure your environment to generate a *shared procedure*.

This topic explains how to generate a shared procedure for use with multiple monitoring servers using either Configuration Manager or PARMGEN.

### About this task

This task requires the use of the following parameter:

#### **KDS\_TEMS\_PROC\_SHARED**

This flag specifies if the monitoring server procedure can be shared among different systems in the sysplex. When the flag is set to Y, the same procedure is generated for a hub monitoring server or a remote monitoring server, and the procedure can be copied to a shared SYS1 . PROCLIB. The default value for this parameter is N.

The use of system variables is also required.

Use the following steps to create a shared procedure for use with multiple monitoring servers.

### Procedure

1. Set the flag parameter that enables the generation of a monitoring server procedure that can be shared:
  - Using Configuration Manager: Add parameter **KDS\_TEMS\_PROC\_SHARED** set to Y to RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar), and then run the **GENERATE** action.
  - Using PARMGEN: In WCONFIG (*rte\_name*), set parameter **KDS\_TEMS\_PROC\_SHARED** to Y, and then run the **\$PARSE** job.

**Note:** For more information about making these changes using PARMGEN, see [Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults](#).

2. Review the generated procedure, and proceed as appropriate:
  - If you use system variables in your runtime environment configuration, including a system variable for **RTE\_NAME**, the generated procedure is ready to be shared.
  - If you do not use system variables in your runtime environment configuration, you can use the generated procedure as a shared procedure if there is a variable in your PARMLIB system symbol

list that corresponds to your **RTE\_NAME** values across all the LPARs in the sysplex. To enable the procedure to be shared, update the following lines:

```
//TEMS PROC RGN=0M,TIM=1440,MEMLIM=NOLIMIT,  
//          SYS=&SYSNAME. ,
```

In this example, **&SYSNAME.** resolves to an **RTE\_NAME** on each system where it is started.

3. Copy the shared started task procedure to your system library.

## Rectifying your PARMGEN configuration

If manual modifications exist in your PARMGEN configuration, follow these steps to standardize your configuration. This task applies only to runtime environments that were created using PARMGEN.

### Before you begin

If you set up your runtime environment using PARMGEN, then any maintenance should also occur using the PARMGEN tool. You should not manually modify any of the parameters or members.

In some cases, members or parameters are modified manually (either intentionally or unintentionally), which can cause problems when applying maintenance or upgrading products within the runtime environment. It is recommended that you follow the guidance in this task to standardize your configuration so that you can perform future maintenance properly and without issue.

**Important:** If you plan to migrate from PARMGEN to IBM Z® Monitoring Configuration Manager, you must standardize your PARMGEN configuration for a smooth migration. Complete this task to prepare your PARMGEN configuration for migration.

### About this task

The following six libraries are within the OMEGAMON runtime environment and contain configurable members:

RKANPARU  
RKANSAMU  
RKANCMDU  
RKD2PAR  
RKD2PRF  
RKD2SAM

**Note:** Libraries RKD2PAR, RKD2PRF, and RKD2SAM (and respective WK\* libraries) are applicable only when OMEGAMON® AI for Db2 is configured.

The members in these libraries should be configured using PARMGEN and standard PARMGEN parameters or embed overrides.

**Note:** For more information about embed members, see [“Override embed members” on page 417](#) and [“Customizing the override embed members” on page 471](#).

If any of these members contain manual modifications, or if you are unsure if there are manual modifications, perform the steps in the following procedure to synchronize your PARMGEN configuration with parameter values inside configurable members. The steps are divided into the following sections:

- [Part I: Identify and isolate](#)
- [Part II: Fix impacted members](#) (with subsection [Embed overrides](#))
- [Part III: Regenerate WK\\* libraries](#)

### Procedure

## Part I: Identify and isolate

Identify and isolate all manual changes inside the PARMGEN runtime environment members.

**Important:** In some rare cases, extra members might exist in the data sets. If such a member is needed for the runtime environment, make sure to include the member in the user-defined exclude list WCONFIG (KCI\$XW2R).

1. Use the PARMGEN tailored JCL job KCIJPSPC to compare WK\* libraries against RK\* libraries (for example, compare WKANSAMU to RKANSAMU). To perform this step, open the “Utilities panel” on page 423, and choose option 27.

```
Submit a utility job (Maintenance):
-----
Description                                     Job/Label
-----
20. Refresh IK* templates/WCONFIG *$IBM profiles.      KCIJPUP1
21. Convert an ICAT RTE Batch member.                 KCIJPCNV
22. Merge profile from a backup LPAR RTE profile.     KCIJPMCF
23. Validate PARMGEN profile parameter values.       KCIJPPVAL
24. Back-up WK* work user libraries.                 KCIJPCPW
25. Back-up RK* product execution user libraries.   KCIJPCPR
26. Recall migrated DEMO RTE datasets.               KCIJPHRC
27. Compare work and runtime user libraries.         KCIJPSPC
28. Empty runtime members in RK* user libraries.    KCIJPMTY
29. Copy WK*->RK* user libraries keeping EXCLUDE members. KCIJPW1R
30. Restore back-up user libs. to current set.      KCIJPB2R
31. Resolve system symbolics in PARMGEN jobs.       KCIJVSrv
32. Collect diagnostic information for this RTE.     KCIJPCOL
33. Delete RTE: DEMO                                KCIJPDEL
```

**Note:** Depending on your screen resolution, you might have to scroll down to see all the options on the panel. Look for **MORE+** on the screen, which indicates there are additional options.

This job compares all libraries with configurable members against working data sets and writes the results to data set `rte_plib_hilev.rte_name.WSUPERC` (for example, `TDXMP.HLQ.DEMO.WSUPERC`). The following comparisons are performed:

- RKANPARU compared with WKANPARU
  - RKANSAMU compared with WKANSAMU
  - RKANCMDU compared with WKANCMDU
  - RKD2PAR compared with WKD2PAR
  - RKD2PRF compared with WKD2PRF
  - RKD2SAM compared with WKD2SAM
2. Open data set `rte_plib_hilev.rte_name.WSUPERC` in view mode, and issue the following command to filter the results:

```
res; x all; hide x; f 'TOTAL CHANGES' all
```

This command helps you to quickly identify data sets and members that are impacted, as follows:

- If you find only 0 (zeros) before TOTAL CHANGES, your runtime environment is in sync with your PARMGEN parameters, and you do not need to perform any additional steps in this task.
- If there are changes, you will see the results similar to the following example and will need to continue with the task to rectify the differences::

```
107 NUMBER OF LINE MATCHES      0 TOTAL CHANGES (PAIRED+NONPAIRED CHNG)
5951 NUMBER OF LINE MATCHES     9 TOTAL CHANGES (PAIRED+NONPAIRED CHNG)
56072 NUMBER OF LINE MATCHES    0 TOTAL CHANGES (PAIRED+NONPAIRED CHNG)
```

3. Issue the following command to identify the data sets and members that are impacted by filtering the impacted members only:

```
res; x all; hide x; f R'NEW:..+([\ ])' all
```

This command produces a list of members that most likely were manually modified and should be fixed, as shown in the following example:

```
NEW: TDXMP.HLQ.DEMO.WKANPARU(KDSENV)    OLD: TDXMP.HLQ.DEMO.RKANPARU(KDSENV)
NEW: TDXMP.HLQ.DEMO.WKANPARU(KC5ENV)    OLD: TDXMP.HLQ.DEMO.RKANPARU(KC5ENV)
NEW: TDXMP.HLQ.DEMO.WKANPARU(KD5ENV)    OLD: TDXMP.HLQ.DEMO.RKANPARU(KD5ENV)
```

You now have a list of all members that are impacted and can start looking for parameters within your PARMGEN configuration that can fix those members, as described in the next section.

### Part II: Fix impacted members

After you have identified the differences that exist, you can start standardizing your configuration, as described in these steps.

4. Continue viewing data set `rte_plib_hilev.rte_name.WSUPERC`, as it contains all the information needed to identify manual modifications.
5. Perform the following steps for each of the impacted members:
  - a. Issue the following command to view the differences for a specific member, where the data set name and member are from the list of impacted members:

```
res; f 'NEW: TDXMP.HLQ.DEMO.WKANPARU(KDSENV)' all
```

**Note:** The string depends on the list produced in the previous steps.

The following example shows the result of the previous command. In this example, there are six lines that do not match in the KDSENV member.

**Note:** In this example, the first three differences can be rectified using standard parameters, which are described in the subsequent steps. The last three differences use embed overrides, which are described in the step in section [Embed overrides](#).

NEW: TDXMP.HLQ.DEMO.WKANPARU(KDSENV)  
TDXMP.HLQ.DEMO.RKANPARU(KDSENV)

OLD:

LISTING OUTPUT SECTION (LINE COMPARE)

```
ID          SOURCE LINES
  TYPE     LEN N-LN#  O-LN#
-----+-----1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7-----
+-----8-----

I - HTTP:1920 USE:Y \
D - HTTP:1921 USE:Y \

I - IP.PIPE PORT:1918 \
D - IP.PIPE PORT:11918 \

I - IP6.PIPE PORT:1918 \
D - IP6.PIPE PORT:11918 \

I - *KOE_MFSB_WUI=600
D - KOE_MFSB_WUI=600

I - *KOE_MFSB_MDI=18000
D - KOE_MFSB_MDI=18000

I - *KOE_MFSB_TBI=18000
D - KOE_MFSB_TBI=18000
```

- b. Address each of the differences individually, as follows.  
The following explanation uses the first identified difference as an example, where member WKANPARU(KDSENV) contains the original value of 1920 and the runtime member RKANPARU(KDSENV) has a different port value of 1921:

```
I - HTTP:1920 USE:Y \
D - HTTP:1921 USE:Y \
```

You can locate the parameter responsible for this line as follows:

- i. Open member `rte_plib_hilev.rte_name.WCONFIG(rte_name)`.
- ii. Use the following command to exclude all lines and find all occurrences of the value 1920. It is important to search for the original value from the WK\* libraries.

```
x all; hide x; f '1920' all
```

For this example, the result of the search is as follows:

```
KDS_TEMS_HTTP_PORT_NUM          1920      * HTTP port number
```

**Note:** If no results are found, the setting might be an embed override. See section [Embed overrides](#).

- iii. Review [IBM Documentation](#) for information about this parameter and to ensure it is correct.

**Tip:** You can use the search bar on the [IBM Documentation](#) landing page to locate information for the parameter by name. Note that some common parameters are documented using prefix *Kpp*, where *pp* is a placeholder for the product code. You can also use the links on page [OMEGAMON product codes and documentation](#) to navigate through the documentation for the various OMEGAMON products.

- iv. Change the value for the parameter (which, in this example, is from 1920 to 1921), and save the member.
- v. Repeat these steps for the next identified difference.
- c. Repeat these steps for the next member.

*Embed overrides*

If the identified difference is from an embed override, it cannot be rectified using standard parameters. The following example shows another identified difference in the KDSENV member, from the example in the previous steps:

```
I - *KOE_MFSB_WUI=600
D - KOE_MFSB_WUI=600
```

Because **KOE\_MFSB\_WUI** is not a standard parameter, the parameter cannot be located in the WCONFIG(*rte\_name*) member. Use the following steps to determine if this setting is controlled by an embed override member, and how to proceed if it is.

- 6. To rectify embed override settings:
  - a. Open the member that contains the identified difference. In this example, it is member WKANPARU(KDSENV).
  - b. Locate the parameter in the member. Typically, embed overrides are grouped together, as shown in the following example:

```
* *****
* USER SECTION: OVERRIDE FOR MEMBER WKANPARU(KDSENV)
* *****
. . . overrides are here . . .
*KOE_MFSB_WUI=600
** ----- END - USER SECTION: OVERRIDE ----- *
```

If you found your parameter within this code block, it means that you can control it using embed override members located in the *rte\_plib\_hilev.rte\_name*.WCONFIG data set. The embed member that is used to add user-defined parameters to WKANPARU(KDSENV) is WCONFIG(KDS\$PENV).

**Tip:** If you do not know the embed member name, you can find the location of the parameter setting using the **SRCHFOR** command against the WCONFIG data set, as shown in the following example:

```
srchfor KOE_MFSB_WUI
```

The results indicate the location of the parameter in the respective override embed member:

```

Menu  Functions  Confirm  Utilities  Help

VIEW          TDXMP.HLQ.DEMO.WCONFIG          String(s)
found
Command ==>          Scroll ==>
CSR
      Name      Prompt      Size  Created      Changed
ID
----- KDS$PENV *Found
----- KDS$PSYS

```

**Note:** For more information about using override embed members and the embed member names, see [“Override embed members” on page 417](#) and [“Customizing the override embed members” on page 471](#).

- c. Edit the override embed member, which in this example is `rte_plib_hilev.rte_name.WCONFIG(KDS$PENV)`, locate the parameter (`KOE_MFSB_WUI`), remove the asterisk from the first column, and save the member.

**Part III: Regenerate WK\* libraries**

After you have updated all the parameters and embed override members, you can proceed with the remaining steps. In this section, you use your updated parameters and embed overrides when regenerating the following working data sets:

- WKANPARU
- WKANSAMU
- WKANCMDU
- WKD2PAR
- WKD2PRF
- WKD2SAM

- 7. In PARMGEN, run the \$PARSE job, as follows:
  - a. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=DEMO.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                      Job Name  Status  Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1

1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type U or UTIL to access utility menu.

```

- b. Select option 1 to submit the composite job to regenerate all libraries.

**Note:** If you want to create (or re-create) only certain runtime members, press F5 for a menu of the individual jobs submitted by the composite job.

The \$PARSE job regenerates working data sets only, so it will not impact any of your running started tasks or other actively used data sets.

8. After the \$PARSE job is completed, go back to the first step, and compare your WK\* data sets against your RK\* data sets again.  
Repeat these steps until your WK\* libraries are exactly the same as your RK\* libraries.

## Completing the configuration outside the configuration software

You must take additional steps outside the configuration software to complete the configuration of your runtime environment, as described in this section.

### Before you begin

After you finish the configuration steps that are described in [“Configuration Manager” on page 214](#) or [“Parameter Generator \(PARMGEN\)” on page 413](#), you must take additional steps outside the configuration software to complete the configuration of your runtime environment. The steps that you are required to complete depend on the steps that you have already taken, the configuration options that you have chosen, and the components or products that you are configuring. Some of the steps are required and others are optional.

### About this task

Many of the steps required are the same for multiple products and can be completed all at one time for all the products. To help you configure your components correctly, work through the topics in this section in conjunction with the corresponding section within the product-specific planning and configuration guides.

**Note:** You can locate the product-specific content using the links provided in [“Complete the configuration for OMEGAMON monitoring agents and components” on page 556](#).

## APF-authorize the runtime load libraries

The runtime load libraries created by the configuration software must be added to your list of APF-authorized libraries.

### About this task

This step is applicable only if you did not enable the optional RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG parameter to generate inline APF-authorized statements in the product started tasks.

### Procedure

- Add the following runtime load libraries to your list of APF-authorized libraries.
  - *rhilev.rte.RKANMOD*
  - *rhilev.rte.RKANMODU*
  - *rhilev.rte.RKANMODL*
  - *rhilev.rte.RKANMODP*

You can run the following commands to do this:

```
*/commands to APF the needed libraries
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMOD,VOL(xxxxxx)
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMODU,VOL(xxxxxx)
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMODL,VOL(xxxxxx)
SETPROG APF,ADD,DSNAME=&RHILEV..&SYS..RKANMODP,VOL(xxxxxx)
```

Any other runtime libraries concatenated in the STEPLIB DDNAME or in the RKANMODL DDNAME of started tasks must also be APF-authorized.

If the runtime environment shares target libraries that were installed by SMP/E, you must also APF-authorize the following libraries:

- *thilev.TKANMOD*

- `thilev.TKANMODL`
- `thilev.TKANMODP`

## What to do next

Some monitoring agents require additional target libraries. Check the product-specific planning and configuration guides for a complete list of runtime libraries to include.

# Complete the configuration of a Tivoli Enterprise Monitoring Server

You must take a number of steps outside the configuration software to complete the configuration of a monitoring server.

## About this task

The following tasks are typically required for completing the configuration of a monitoring server.

1. If you have configured more than one hub monitoring server on z/OS®, you must refresh the KSHXHUBS member in other runtime environments. You can find this member in:

```
rHilev.rte.RKANPARU(KSHXHUBS)
```

2. For more information on starting/stopping the monitoring server, see [“Verifying that you can start and stop the monitoring server” on page 523](#).
3. If you want to enable IBM Z® NetView authorization of Take Action commands, see [“Configuring IBM Z NetView authorization of z/OS commands” on page 544](#).
4. If ICSF is not installed on the system: [“\(If applicable\) Editing the portal server environment file” on page 525](#).
5. If you want to enable event forwarding to Netcool/OMNIbus: [“\(Optional\) Enabling event forwarding” on page 526](#).

## Verifying that you can start and stop the monitoring server

At this point in the configuration, you can verify that the monitoring server can be started and stopped.

### Procedure

1. Start the hub monitoring server.  
If your hub is on a z/OS® system, start the monitoring server started task (by default, IBMDS):

```
S IBMDS
```

If your hub is on a distributed system, see the *IBM Tivoli Monitoring Installation and Setup Guide*.

2. If you have configured remote monitoring servers on z/OS®, start the started task for each server:

```
S IBMDS
```

3. In the RKLVLLOG for the monitoring server address space, look for the following messages to indicate successful startup:

```
KDSMA001 Tivoli Enterprise Monitoring Server (TEMS) data collection server started.
K04SRV032 Tivoli Enterprise Monitoring Server (TEMS) startup complete.
```

4. Look also for the following messages to indicate successful establishment of a communications path by the local location broker:

```
KDSNC007 Local Location Broker is active
KDSNC004 Bind of local location broker complete= protocol_name:address
```

If the monitoring server is a hub, additional messages indicate successful establishment of a communications path by the global location broker:

```
KDSNC004 Bind of global location broker complete= protocol_name:address
KDSNC005 Bind of global location broker complete at address protocol_name:address on
port number
KDSNC008 Global Location Broker is active
```

For a remote monitoring server, look for a message similar to this one to indicate a successful connection with the hub:

```
KDS9141I The TEMS RTEname:CMS is connected to the hub TEMS protocol_name:address
```

The number of messages depends on the number of protocols defined.

5. Stop the monitoring server started task:

```
P IBMDS
```

If you encounter problems starting or stopping the monitoring server, refer to [IBM Tivoli Monitoring: Troubleshooting Guide](#).

## (If applicable) Installing the tacmd CLI component

If needed, use this procedure to manually install the tacmd CLI component on a distributed platform.

### Before you begin

Some features and configuration options, such as self-describing agent (SDA) administration and importing and exporting situations, require access to the Tivoli administrative commands (tacmd) Command Line Interface (CLI).

The tacmd CLI is part of the Tivoli Enterprise Services User Interface extensions component of Tivoli Management Services, which must be installed on a distributed system. This component provides the ability to interact with a monitoring server and is available on the IBM® Tivoli Monitoring DVD image.

The interface is automatically installed if you install distributed components, such as a Tivoli Enterprise Monitoring Server, a Tivoli Enterprise Portal Server, or a Tivoli Enterprise Portal desktop client on a distributed system. It is not available on z/OS. If you do not want to install a monitoring server or a portal server on a distributed platform, but you do intend to use a feature that requires access to the tacmd CLI, you can install just the tacmd CLI component on at least one distributed platform. The system on which it is installed requires access via a SOA services connection to the hub monitoring server.

See the [IBM Tivoli Monitoring Command Reference](#) for information about tacmd CLI usage and parameters.

### About this task

Use the following procedure to install the tacmd CLI component on a distributed platform.

If your Tivoli Enterprise Monitoring Server resides on a z/OS system that is using multi-factor authentication (MFA), you must also make sure that the necessary maintenance has been installed on both the z/OS and distributed platforms, as described in the following procedure. Besides installing the necessary maintenance, no additional setup is needed for using the tacmd CLI in an MFA environment.

**Note:** For more information about MFA, see [Multi-Factor Authentication for z/OS](#).

### Procedure

1. If your Tivoli Enterprise Monitoring Server resides on a z/OS system that is using MFA, ensure that your environment has the necessary maintenance installed, as follows:
  - APAR OA62146 must be applied on the z/OS hub monitoring server.
  - IBM Tivoli Monitoring fix pack 6.3.0.7-TIV-ITM-SP0012 or later must be installed on the distributed platform. Installation-related instructions, prerequisites, and corequisites are provided in the [readme](#).

2. To install the tacmd CLI component from the IBM Tivoli Monitoring installation image, perform either of the following steps:
  - On Windows, on the **Select Products** window of the installer, select the **Tivoli Enterprise Services User Interface Extensions feature (KUE)** which appears under the **Tivoli Enterprise Monitoring Agents - TEMA feature**. When you select it, the prerequisite **Tivoli Enterprise Monitoring Agent Framework** is automatically selected.
  - On Linux or UNIX, select the **Tivoli Enterprise Services User Interface Extensions feature (KUE)** when prompted to choose which IBM Tivoli Monitoring components to install.
3. After selecting the required installation features, follow the installation program instructions to complete the install.

## (If applicable) Enabling granular control of SDA application support files

By default, granular control of self-describing agent (SDA) application support data is disabled on z/OS hub monitoring servers. To enable granular support, you must use the tacmd CLI to specify the products and versions for which data is to be installed.

### Before you begin

SDA administration requires access to the Tivoli administrative commands (tacmd) Command Line Interface (CLI) from a distributed platform, such as Windows, Unix or Linux. The tacmd CLI is a product component that is installed on a distributed system and allows interaction with the monitoring server. For more information about the tacmd CLI, see [“\(If applicable\) Installing the tacmd CLI component” on page 524](#).

### Procedure

- To enable granular control of application support for self-describing agents, issue one of the following commands using the tacmd CLI:
  - **tacmd addSdaInstallOptions** to specify the products and versions that the self-describing agent facility is allowed to install.
  - **tacmd editSdaInstallOptions -t DEFAULT -i ON** to allow installations for all products and versions without any blocking. (This setting is essentially the default self-describing agent behavior in V6.2.3 and V6.2.3 FP1.)

After modifying your installation options, you can use the **tacmd listSdaInstallOptions** command to display the current installation configurations for the hub monitoring server. You can use the **tacmd listappinstallrecs** command to monitor the application support installation records and the **tacmd listSdaStatus** command to monitor the self-describing enablement and suspend status for all monitoring servers in your environment.

## (If applicable) Editing the portal server environment file

Communication between a hub monitoring server and the Tivoli Enterprise Portal Server is encrypted. On the Tivoli Enterprise Portal Server, the Global Security Toolkit (GSKit) is used for encryption and decryption. On z/OS, GSKit is known as the Integrated Cryptographic Service Facility (ICSF). Because both components must use the same schema, if the hub system does not use ICSF, the portal server must be configured to use a less secure schema, EGG1.

### About this task

You configure the Tivoli Enterprise Portal Server to use the EGG1 scheme by editing the environment file (kfwenv).

### Procedure

1. On the Windows® or Linux® system where you have installed the portal server, launch the Manage Tivoli® Monitoring Services application.
2. In the application window, right-click **Tivoli Enterprise Portal Server**, and select **Advanced> Edit ENV File**.  
The environment file kfwenv is opened in a text editor.
3. Add the following line to the end of the file, and then save the file and close the editor.

```
USE_EGG1_FLAG=1
```

(or USE\_EGG1\_FLAG=Y)

4. Restart the Tivoli Enterprise Portal Server.

## (Optional) Enabling event forwarding

If you have configured a hub monitoring server on z/OS® to forward situation events to IBM® Tivoli® Netcool/OMNIbus, you must complete additional tasks for event forwarding to succeed.

### Before you begin

To perform this procedure, a Tivoli® Enterprise Portal Server or the Tivoli® Enterprise Services User Interface Extensions feature (KUE) must be installed on a Windows™, UNIX™, or Linux™ system.

### About this task

Perform the following steps to complete the enablement of event forwarding.

The [IBM Tivoli Monitoring: Installation and Setup Guide](#) provides detailed instructions for configuring OMNIbus servers to receive the situation events from the hub and for installing the event synchronization component that allows the servers to return updated status to the hub. The [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#) explains how to use the Situation editor to specify event destinations and the severity of set situations.

### Procedure

1. Configure the destination event server or servers to receive the events.
2. Install a situation update forwarding process (the event synchronization component) on the event server or servers.
3. Use the `tacmd createEventDest` command to specify additional destination servers, if desired.
4. Use the Tivoli Enterprise Portal Situation editor to specify the following information:
  - the specific event servers to receive events (EIF receivers)
  - the event severity.
  - Specify which events are sent to which event servers.

## Adding application support to a monitoring server on z/OS®

**IMPORTANT:** *If your site has activated the self-describing agents capability at the hub monitoring server, it is not necessary to take any additional steps to add support for any agent that has the self-describing capability. You can skip this section.* However, if your site has agents reporting to the hub that do not have self-describing capability, or if you have not enabled the capability at the hub, you must install application support.

### About this task

Before you can view data collected by a monitoring agent, support for the agents must be added to the Tivoli Enterprise Portal Server, to the hub monitoring server, and in some cases, to a remote monitoring server.

Application support for a monitoring agent includes two types of files:

- **Catalog and attribute (CAT and ATR) files** are required for presenting workspaces, online help, and expert advice for the agent in Tivoli Enterprise Portal.
- **SQL files** are required for adding product-provided situations, templates, and policies to the Enterprise Information Base (EIB) tables maintained by the hub monitoring server. These SQL files are also called *seed data*, and installing them on a monitoring server is also called *seeding* the monitoring server.

**Important:** The catalog and attribute files for a monitoring agent must be added to a monitoring server on z/OS® *before* the SQL files can be added to that monitoring server.

The way you implement the application support requirements depends on your setup.

- If a monitoring agent and a monitoring server are installed in the same CSI, the catalog and attribute files are added automatically to the monitoring server when its runtime libraries are loaded.

**Tip:** A monitoring agent on z/OS® have additional requirements. See the configuration documentation for each monitoring agent product.

- If a monitoring agent and a monitoring server are installed in different CSIs, and if data collected by the monitoring agent will flow through the monitoring server, you must copy or transfer the catalog and attribute files (KppATR and KppCAT) from the *thilev.TKANDATV* library in the CSI where the monitoring agent is installed to the *rhilev.rte.RKANDATV* library for the runtime environment in which the monitoring server is configured.
- You add the catalog and attribute files for the Warehouse Proxy agent and for the Summarization and Pruning agent to the hub monitoring server on z/OS® from the Manage Tivoli Monitoring Services utility on a Windows®, Linux®, or UNIX® computer where a portal server is installed and where either the portal server or a monitoring server is configured to communicate with the hub on z/OS®.
- You add the SQL files for one monitoring agent or more, for the Warehouse Proxy agent, and for the Summarization and Pruning agent to the hub monitoring server on z/OS® from the Manage Tivoli Monitoring Services utility.
- If a distributed monitoring agent (a monitoring agent installed on a Windows®, Linux®, or UNIX® system) or a monitoring agent on a z/VM® system reports directly to a hub monitoring server on a z/OS® system, you must add both the catalog and attribute files and the SQL files to the hub on z/OS® from Manage Tivoli Monitoring Services.

This topics in this section provide instructions for adding application support to a monitoring server on z/OS®. For instructions on adding application support to a monitoring server on Windows®, Linux®, or UNIX®, see the *IBM Tivoli Monitoring: Installation and Setup Guide*.

## Prerequisites

Before you add application support to a monitoring server, you must complete certain prerequisite tasks.

- Verify that every monitoring agent for which you plan to add application support is compatible with the version 6.3.0 Fix Pack 2 or higher components of Tivoli Management Services. If you have any question about whether the components are compatible, see the planning information in the monitoring agent documentation or [Planning a first deployment](#).
- Install the distributed components of Tivoli Management Services (IBM Tivoli Monitoring). The procedures described in this chapter require that a portal server be installed on a Windows®, Linux®, or UNIX® system and that either the portal server or a monitoring server be configured to communicate with the hub on z/OS®. For instructions, see the *IBM Tivoli Monitoring: Installation and Setup Guide*.
- Install any distributed non-base monitoring agents that you have purchased. For instructions, see the documentation for each monitoring agent.
- Make sure you have access to the application support data files for every monitoring agent for which you plan to add application support.
  - Some monitoring agents that run on z/OS® or z/VM® are packaged with their own CD or DVD that contains the data files for adding application support to the monitoring server.
  - Other monitoring agents that run on z/OS® are packaged with a CD or DVD that contains application support data files for a number of agents.
  - Distributed agents (including the Warehouse Proxy agent and the Summarization and Pruning agent) already have the necessary application support files available on the appropriate system, if the agents are installed on a computer with a portal server installed and with either the portal server or a monitoring server configured to communicate with the hub on z/OS®.

**Tip:** During installation of the components of Tivoli Management Services (IBM Tivoli Monitoring) on a distributed system, you are prompted to add application support to the monitoring server. Select the option **On this computer** to add application support to the local monitoring server. Do *not* select the option **On a different computer** to add application support to the hub on z/OS® at this point.

- For a distributed agent installed on a computer on which no portal server is installed or on which neither the portal server nor a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®, use the product CD or DVD to install the application support files on a different computer where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. For instructions, see the installation instructions in the monitoring agent library, or see the [IBM Tivoli Monitoring: Installation and Setup Guide](#).

To determine where application support files can be found for z/OS® monitoring agents and to ensure that you install application support for your monitoring agents in the correct order, see technote [Locating ITM Workspace Application Support Files for z/OS® Agents](https://www.ibm.com/support/pages/locating-itm-workspace-application-support-files-for-zos-agents) (<https://www.ibm.com/support/pages/locating-it-workspace-application-support-files-zos-agents>).

## Selecting the correct procedure

The procedure for adding application support to a monitoring server depends on your configuration. Some configurations, while supported, do not represent best practices and might not yield the best possible results in performance and reporting.

The best-practice configurations are identified in [“Procedures for adding application support to a monitoring server on z/OS®” on page 528](#). For more detailed information about best practices for configuring your monitoring environment, see [Planning a first deployment](#).

## About this task

Monitoring agent location	Best practice?	Follow these instructions
Same CSI as the hub or remote monitoring server on z/OS®	Yes	<ol style="list-style-type: none"> <li>1. Install the application support files on a distributed system where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. See <a href="#">“Install the application support files on a distributed system where a portal server is installed” on page 530</a>.</li> <li>2. Copy or transfer catalog and attribute files to the monitoring server on z/OS® for the Warehouse Proxy agent and the Summarization and Pruning agent, if you want to store long-term history data. See <a href="#">“Copy or transfer catalog and attribute files to the monitoring server on z/OS” on page 534</a>.</li> <li>3. Use Manage Tivoli® Monitoring Services to add application support SQL files to the hub monitoring server on z/OS®. See <a href="#">“Use Manage Tivoli Monitoring Services to add application support SQL files to the hub monitoring server on z/OS” on page 535</a>.</li> </ol>

Monitoring agent location	Best practice?	Follow these instructions
Different CSI from the hub or remote monitoring server on z/OS®	No	<ol style="list-style-type: none"> <li>1. Copy or transfer the monitoring agent's catalog and attribute files (<i>KppCAT</i> and <i>KppATR</i>) from the <i>thilev.TKANDATV</i> library in the CSI where the monitoring agent is installed to the <i>rhilev.rte.RKANDATV</i> library for the runtime environment in which the monitoring server is configured. You can use IEBCOPY or FTP file transfer.</li> <li>2. Install the application support files on a distributed system where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. See <a href="#">“Install the application support files on a distributed system where a portal server is installed” on page 530.</a></li> <li>3. Copy or transfer catalog and attribute files to the monitoring server on z/OS® for the Warehouse Proxy agent and the Summarization and Pruning agent, if you want to store long-term history data. See <a href="#">“Copy or transfer catalog and attribute files to the monitoring server on z/OS” on page 534.</a></li> <li>4. Use Manage Tivoli® Monitoring Services to add application support SQL files to the hub monitoring server on z/OS®. See <a href="#">“Use Manage Tivoli Monitoring Services to add application support SQL files to the hub monitoring server on z/OS” on page 535.</a></li> </ol>
z/VM® system	Yes	<ol style="list-style-type: none"> <li>1. Install the application support files on a distributed system where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. See <a href="#">“Install the application support files on a distributed system where a portal server is installed” on page 530.</a></li> <li>2. Copy or transfer catalog and attribute files to the monitoring server on z/OS®. See <a href="#">“Copy or transfer catalog and attribute files to the monitoring server on z/OS” on page 534.</a></li> <li>3. Use Manage Tivoli® Monitoring Services to add application support SQL files to the hub monitoring server on z/OS®. See <a href="#">“Use Manage Tivoli Monitoring Services to add application support SQL files to the hub monitoring server on z/OS” on page 535.</a></li> </ol>
Distributed system where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®	Yes	<ol style="list-style-type: none"> <li>1. Copy or transfer catalog and attribute files to the monitoring server on z/OS®. See <a href="#">“Copy or transfer catalog and attribute files to the monitoring server on z/OS” on page 534.</a></li> <li>2. Use Manage Tivoli® Monitoring Services to add application support SQL files to the hub monitoring server on z/OS®. See <a href="#">“Use Manage Tivoli Monitoring Services to add application support SQL files to the hub monitoring server on z/OS” on page 535.</a></li> </ol>

Monitoring agent location	Best practice?	Follow these instructions
Distributed system (Windows®, Linux®, or UNIX®) on which no portal server is installed or on which neither the portal server nor a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®	No	<ol style="list-style-type: none"> <li>1. Install the application support files on a distributed system where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. See <a href="#">“Install the application support files on a distributed system where a portal server is installed” on page 530.</a></li> <li>2. Copy or transfer catalog and attribute files to the monitoring server on z/OS®. See <a href="#">“Copy or transfer catalog and attribute files to the monitoring server on z/OS” on page 534.</a></li> <li>3. Use Manage Tivoli® Monitoring Services to add application support SQL files to the hub monitoring server on z/OS®. See <a href="#">“Use Manage Tivoli Monitoring Services to add application support SQL files to the hub monitoring server on z/OS” on page 535.</a></li> </ol>

The remaining topics in this section provide instructions for these carrying out these procedures.

**Tip:** Complete only the procedures that apply to your configuration. Use [“Procedures for adding application support to a monitoring server on z/OS®” on page 528](#) to determine which procedures you must complete, and complete them in the order indicated in the table.

## Install the application support files on a distributed system where a portal server is installed

This step involves installing the application support files on a Windows®, Linux®, or UNIX® system where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®.

For base agents (distributed agents included in the purchase of IBM Tivoli Monitoring) and for other distributed agents installed on a system that meets these requirements, you can skip to [“Copy or transfer catalog and attribute files to the monitoring server on z/OS” on page 534.](#)

### About this task

Follow the instructions for installing the application support files on the appropriate system:

#### Installing application support files on Windows

### About this task

Following the correct order for installing application support files on Windows® is essential. To determine where application support files can be found and to ensure that you install application support for your monitoring agents in the correct order, see technote [Locating ITM Workspace Application Support Files for z/OS® Agents](https://www.ibm.com/support/pages/locating-it-workspace-application-support-files-zos-agents) (<https://www.ibm.com/support/pages/locating-it-workspace-application-support-files-zos-agents>).

To install the application support files on Windows®, follow this procedure:

### Procedure

1. Insert a CD or DVD containing the application support files into the CD-ROM drive of a Windows® workstation where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. (See [“Prerequisites” on page 527.](#))
  - Some monitoring agents that run on z/OS® or z/VM® are packaged with their own CD or DVD that contains the data files for adding application support to the monitoring server.

Other monitoring agents that run on z/OS® are packaged with a CD or DVD that contains data files for a number of agents.

If in doubt, refer to the configuration guide for each of your monitoring agents to find the exact name of the CD or DVD to use.

- For a distributed agent installed on a computer without a portal server or monitoring server configured to communicate with the hub on z/OS®, use the product CD or DVD to install the application support files on a different workstation where a portal server is installed and where either the portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®. For instructions, see the installation instructions in the monitoring agent library, or see *IBM Tivoli Monitoring: Installation and Setup Guide*.

Installation begins automatically. If the installer does not start, go to the Windows® directory on your CD-ROM drive and run **setup.exe**. If **setup.exe** initialization fails, you might not have enough free disk space to extract the setup files.

2. Read the text that welcomes you to the installation, and click **Next** to continue.
3. On the Install Prerequisites window, check boxes are cleared if the required software is already installed. Otherwise, a message instructs you to install the required software.
4. Click **Next** to continue.
5. Read the software license agreement and click **Accept**.
6. On the Select Features window, expand **Tivoli Enterprise Portal Server** and **Tivoli Enterprise Portal Desktop Client** (and **Tivoli Enterprise Monitoring Server**, if it is installed on the Windows® workstation). For each component, select support for the monitoring agents you have installed on z/OS®.

**Tip:** The **Eclipse Help Server** component might be included in the list on the Select Features window. However, this component is not selectable because it does not require application support.

The rest of the instructions assume that you are installing application support on the portal server and desktop client.

7. Click **Next** to continue.
8. In the Current® Settings pane of the Start Copying Files window, read the list of actions to be performed, and click **Next**.  
A window notifies you that you will be unable to cancel the installation after this point, and asks whether you want to continue.
9. Click **Yes** to continue.  
Application support for the selected monitoring agents is installed on the portal server and desktop client. This installation step can take several minutes.
10. On the Setup Type window, select the following items:
  - Configure Tivoli Enterprise Portal
  - Launch Manage Tivoli® Monitoring Services for additional configuration options and to start Tivoli® Monitoring Services.
11. Click **Next** to continue.
12. On the TEPS Hostname window, make sure that the host name of the Tivoli Enterprise Portal Server is correct and does not include the domain name. Click **Next**.  
Presentation files for the Tivoli Enterprise Portal are built. This process can take up to 20 minutes.
13. On the InstallShield Wizard Complete window, click **Finish**.
14. Use Manage Tivoli Monitoring Services to copy catalog and attribute files and to add SQL files to the monitoring server on z/OS®. Follow the instructions in [“Transferring the catalog and attribute files from Windows” on page 534](#) and [“Adding application support SQL files from Manage Tivoli Monitoring Services on Windows” on page 536](#).

## Installing application support files on Linux® or UNIX®

### About this task

Installing application support on a Linux® or UNIX® system is a procedure with three iterations:

- Installing application support on the browser client component of the portal server.
- Installing application support on the portal server.
- Installing application support on the monitoring server (if a monitoring server is installed on the local Linux® or UNIX® system).

Application support can be installed on only one component at a time.

This procedure uses the command-line interface. For instructions on using the GUI interface or silent mode, see *IBM Tivoli Monitoring: Installation and Setup Guide*.

To install the application support files on Linux® or UNIX®, follow this procedure.

### Procedure

1. On a system where either a portal server or a remote monitoring server is configured to communicate with the hub monitoring server on z/OS®, run the following command from the application support installation media:

```
./install.sh
```

The installation media can be either the agent product CD or DVD for a distributed monitoring agent, or a data files CD or DVD for a monitoring agent that run on z/OS® or z/VM®. See “Prerequisites” on page 527.

2. When prompted for the IBM® Tivoli® Monitoring home directory, press Enter to accept the default (/opt/IBM/ITM) or type the full path to the installation directory you used. The installer presents a list of installation options:

```
Select one of the following:  
1) Install products to the local host.  
2) Install products to depot for remote deployment (requires TEMS).  
3) Install TEMS support for remote seeding  
4) Exit install.  
Please enter a valid number:
```

3. Enter 1 to start the installation. The software license agreement is displayed.
4. Review the license agreement, and then enter 1 to accept it.
5. Select the components on which you want to install application support. A list of available product packages is displayed:

```
Product packages are available for this operating system and component support categories:
```

```
1) IBM Tivoli Monitoring components for this operating system  
2) Tivoli Enterprise Portal Browser Client support  
3) Tivoli Enterprise Portal Server support  
4) Tivoli Enterprise Monitoring Server support  
5) Other operating systems
```

**Tip:** Tivoli Enterprise Portal Browser Client support is the component of Tivoli Enterprise Portal Server that supports presentation of the Tivoli Enterprise Portal for browser clients. You must install the browser client support on the computer where you installed the portal server.

6. If you have not already installed the Tivoli Management Services components on the current operating system, enter 1. Otherwise, select one of the components for installation of application support. Only one item can be selected at a time.
7. At the prompt for products to install, select and confirm either an individual monitoring agent or **all of the above**.

(Although the prompts seem to indicate that the monitoring agents themselves are being installed, only the application support files for the monitoring agents are actually being installed.)

```
The following products are available for installation:
1) monitoring_agent_1 Vnn.nn.nn.nn
2) monitoring_agent_2 Vnn.nn.nn.nn
3) all of the above

Type your selections here: 3
The following products will be installed:
  monitoring_agent_1 Vnn.nn.nn.nn
  monitoring_agent_2 Vnn.nn.nn.nn

Are your selections correct [ y or n; "y" is default ]?
... installing "monitoring_agent_1 Vnn.nn.nn.nn for Linux S390 R2.6 (32 bit)";
please wait.
... installing "monitoring_agent_2 Vnn.nn.nn.nn for Linux S390 R2.6 (32 bit)";
please wait.
```

8. Enter **y** at the next prompt:

```
Do you want to install additional products or product support packages [ y or n; "n"
is default ]?
```

9. Repeat the procedure to install browser client, portal server, and monitoring server (if a monitoring server is installed on the local system) support.  
Only one item can be installed at a time. For each item, select the same monitoring agent (product) to install.
10. After you have selected and installed application support for all installed components, enter **n** at the following prompt:

```
Do you want to install additional products or product support packages [ y or n; "n"
is default ]?
```

You are prompted to add application support to all locally installed components. For example, if there is a local monitoring server, you see a prompt similar to this one:

```
Following Tivoli Enterprise Monitoring Server product support were installed:
  monitoring_agent_1
  monitoring_agent_2

Note: This operation causes the monitoring server to restart.
Do you want to seed product support on the Tivoli Enterprise Monitoring Server?
[ 1=Yes, 2=No ; default is "1" ]
```

11. Enter **1** to add application support to the local monitoring server.  
The installer starts the monitoring server, adds application support, and stops the monitoring server; and repeats the procedure for each of the other components installed on the local system. This message indicates successful completion:

```
All supports successfully seeded.
```

12. Exit the installation program.
13. Stop the portal server and the portal client:

```
./itmcmd agent stop cq
./itmcmd agent stop cj
```

14. Reconfigure the portal server with the new agent information:

```
./itmcmd config -A cq
```

**Tip:** If you already configured the portal server after installing it, you can press Enter at each prompt to accept the previously entered parameters.

15. Reconfigure the portal client with the new agent information:

```
./itmcmd config -A cj
```

16. Restart the portal server and the portal client:

```
./itmcmd agent start cq  
./itmcmd agent start cj
```

17. Use Manage Tivoli Monitoring Services to copy catalog and attribute files and to add SQL files to the monitoring server on z/OS®. Follow the instructions in [“Transferring the catalog and attribute files from Linux or UNIX” on page 535](#) and [“Adding application support SQL files from Manage Tivoli Services on Linux or UNIX” on page 537](#).

## Copy or transfer catalog and attribute files to the monitoring server on z/OS®

### About this task

The requirements for catalog and attribute files depend on your setup.

- For monitoring agents in the same CSI with a monitoring server on z/OS®, catalog and attribute files are added automatically to the monitoring server when its runtime libraries are loaded. However, if you want to store long-term history data, you must still transfer catalog and attribute files to the monitoring server on z/OS® for the Warehouse Proxy agent and the Summarization and Pruning agent.
- For a monitoring agent that is not installed in the same CSI as a z/OS® monitoring server through which the agent's data flows, you must copy or transfer the agent's catalog and attribute files (*KppATR* and *KppCAT*) from the *thilev.TKANDATV* library in the CSI where the monitoring agent is installed to the *rhilev.rte.RKANDATV* library for the runtime environment in which the monitoring server is configured. You can use IEBCOPY or FTP file transfer to put the files into the *rhilev.rte.RKANDATV* data set.
- For distributed monitoring agents reporting to a monitoring server on z/OS®, you transfer catalog and attribute files to the monitoring server on z/OS® from Manage Tivoli Monitoring Services on a system where a portal server is installed and where either the portal server or a monitoring server is configured to communicate with the monitoring server on z/OS®.
- If you want to store long-term history data, you transfer catalog and attribute files for the Warehouse Proxy agent and the Summarization and Pruning agent to the hub monitoring server on z/OS® from Manage Tivoli Monitoring Services on a system where a portal server is installed and where either the portal server or a monitoring server is configured to communicate with the monitoring server on z/OS®.

The required catalog and attribute files were installed on a Windows®, Linux®, or UNIX® computer when you installed application support from the appropriate media. Follow the instructions for transferring the catalog and attribute files to a monitoring server on z/OS® from a system where the portal server is installed:

### Transferring the catalog and attribute files from Windows®

#### About this task

Complete this procedure to transfer the catalog and attribute files from Manage Tivoli® Monitoring Services on Windows®.

#### Procedure

1. On the Windows® workstation where you installed the application support data files and where the Tivoli Enterprise Portal Server is installed, select Start > Programs (or All Programs) > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services.
2. On the Manage Tivoli Monitoring Services window, select **Actions > Advanced > Utilities > FTP Catalog and Attribute files**.
3. On the FTP Catalog and Attribute Files window, select the files you want to transfer, and click **OK**.
4. On the FTP TEMS Data to z/OS® window, provide the following information:
  - The fully qualified host name or the IP address of the monitoring server on z/OS®.
  - A valid FTP user ID and password.

- The fully qualified name of the *rhilev.rte.RKANDATV* data set (DSN).

**Important:** When you type the data set name, make sure that it does not end with a trailing blank, or the FTP will fail.

5. After you have completed these fields, click **OK** to transfer the files. Click **OK** again to confirm.
6. Stop and restart the monitoring server on z/OS®.

## What to do next

Go on to add SQL files to the hub on z/OS®. Follow the instructions in [“Adding application support SQL files from Manage Tivoli Monitoring Services on Windows”](#) on page 536.

## Transferring the catalog and attribute files from Linux® or UNIX®

### About this task

Complete this procedure to transfer the catalog and attribute files from Manage Tivoli Monitoring Services on a Linux® or UNIX® system where you have already installed the Tivoli Enterprise Portal Server and the application support files.

### Procedure

1. To start Manage Tivoli Monitoring Services, go to the ITM installation bin directory (example: `/opt/IBM/ITM/bin`) on the system where you installed the application support data files, and run this command:

```
./itmcmd manage &
```

A GUI window opens for Manage Tivoli® Monitoring Services.

2. Select **Actions > FTP Catalog and Attribute files**.
3. On the Select Attribute and Catalog Data for Transfer window, select the files you want to transfer, and click **OK**.
4. On the FTP TEMS Data to z/OS® window, provide the following information:
  - The fully qualified host name or the IP address of the monitoring server on z/OS®.
  - A valid FTP user ID and password.
  - The fully qualified name of the *rhilev.rte.RKANDATV* data set (DSN).

**Important:** When you type the data set name, make sure that it does not end with a trailing blank, or the FTP will fail.

5. After you have completed these fields, click **OK** to transfer the files.  
Look for this message in the log window of Manage Tivoli® Monitoring Services: Done sending files
6. Stop and restart the monitoring server on z/OS®.

## What to do next

Go on to add SQL files to the hub on z/OS®. Follow the instructions in [“Adding application support SQL files from Manage Tivoli Services on Linux or UNIX”](#) on page 537.

## Use Manage Tivoli® Monitoring Services to add application support SQL files to the hub monitoring server on z/OS®

### About this task

You can use Manage Tivoli Monitoring Services to add application support SQL files to the hub monitoring server on z/OS® from any Windows®, Linux®, or UNIX® system where a portal server or monitoring server has been

installed and configured to communicate with the hub. For a monitoring agent on z/OS® or z/VM®, the application support files must also have been installed from the appropriate data files CD or DVD.

For a monitoring agent on z/OS®, the application support SQL files are required on the hub monitoring server but not on a remote monitoring server. Plex agents are the exception: they require SQL files on any hub or remote monitoring server. However, SQL files for the plex agents are added automatically to each remote monitoring server on z/OS® when the agent is registered with the monitoring server, so you do not have to concern yourself with them.

To add application support SQL files to a hub monitoring server on z/OS® from Manage Tivoli Monitoring Services, follow the instructions for the operating system where you have installed the files:

## Adding application support SQL files from Manage Tivoli Monitoring Services on Windows®

### About this task

To add application support SQL files to the hub monitoring server on z/OS®, complete this procedure.

### Procedure

1. Ensure that the hub monitoring server is running.
2. On a Windows® workstation where the application support files are installed, select Start > Programs (or All Programs) > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services.
3. On the Manage Tivoli Monitoring Services window, select **Actions > Advanced > Add TEMS application support**.
4. On the Add Application Support to the TEMS window, select On a different computer and click **OK**.
5. When you are prompted to ensure that the hub monitoring server is configured and running, click **OK**.
6. On the Non-Resident TEMS Connection window, provide the hub monitoring server TEMS name (node ID), specify that it is a hub, select the communication protocol to use in sending the application support SQL files to the hub, and provide any values required by the selected communication protocol. Then click **OK** to continue.

If you made a note of the TEMS name you specified when you defined the runtime environment, find it now. Otherwise, you can find the TEMS name as the case-sensitive value of the CMS\_NODEID environment variable in this location:

```
rhilev.rte.RKANPARU(KDSENV)
```

7. On the next panel, select the products for which you want to add application support. (If you want to collect historical data, be sure to select the Warehouse Proxy and Summarization and Pruning agents, in addition to any monitoring agents you have purchased.) Then specify whether you want to add the default managed system groups to situations when you process the application support files:

#### All

Add the default managed system groups to all applicable situations.

**Tip:** Make this selection if you have never customized situations from previous releases.

#### None

Do not add the default managed system groups to any situation.

**Tip:** Make this selection if you do not want any predefined managed system groups to be applied to your environment.

#### New

Add the default managed system groups to all situations from the application support packages being installed for the first time. Modifications are not made to managed system groups in previously upgraded application support packages.

**Tip:** Make this selection if you have customized situations from previous releases and you want to protect your customized settings, but you want to apply the predefined managed system groups to new situations.

Make a selection and click **OK**. The SQL application support files are added to the hub monitoring server. This process might take several minutes, depending on the number of products.

**Tip:** Not all situations support the default managed group setting. You might have to define the distribution of some situations later from the Tivoli Enterprise Portal. For more information about managed system groups, see the [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#).

The Application Support Addition Complete window gives you information about the status and location of the SQL application support files. A return code of 0 (rc=0) indicates that the process succeeded.

8. Click **Save As** if you want to save the information in a text file. Click **Close** to close the window. If the Application Support Addition Complete window is not displayed after 20 minutes, look in the IBM\ITM\CNPS\Log\NonResSeed $pp$ .log files (where  $pp$  is the 2-character code for each monitoring agent) for diagnostic messages that help you determine the cause of the problem. See the [IBM Tivoli Monitoring: Messages Guide](#) and [IBM Tivoli Monitoring: Troubleshooting Guide](#) for information about messages and abnormal return codes.
9. Stop and restart the hub monitoring server.

## Adding application support SQL files from Manage Tivoli Services on Linux® or UNIX®

### About this task

To add application support SQL files to the hub monitoring server on z/OS®, complete this procedure.

### Procedure

1. Enable the GUI interface. Your Linux® or UNIX® environment might already have a GUI interface enabled. Otherwise, perform the following tasks to enable it:
  - a. Enable X11.
  - b. Make sure you have access to a native X-term monitor or an X Window System emulator.
  - c. If using an X Window System emulator, enable X11 access to the X Window System server (command example: `xhost +`).
  - d. If using an X Window System emulator, set the display environment variable to point to the X Window System server:

```
export DISPLAY=pc_ip_address:0
```

2. Ensure that the hub monitoring server on z/OS® is running.
3. To start Manage Tivoli Monitoring Services, go to the \$CANDLEHOME bin directory (example: `/opt/IBM/ITM/bin`) on the system where you installed the application support data files, and run this command:

```
./itmcmd manage &
```

A GUI window opens for Manage Tivoli® Monitoring Services.

4. Select **Actions > Install product support**.
5. On the Add Application Support to the TEMS window, select **On a different computer** and click **OK**.
6. When you are prompted to ensure that the hub monitoring server is configured and running, click **OK**.
7. On the Non-Resident TEMS Connection window, provide the hub monitoring server TEMS name (node ID), specify that it is a hub, select the communication protocol to use in sending the application support SQL files to the hub, and provide any values required by the selected communication protocol. Then click **OK** to continue.

If you made a note of the TEMS name you specified when you defined the runtime environment, find it now. Otherwise, you can find the TEMS name as the case-sensitive value of the CMS\_NODEID environment variable in this location:

```
rhilev.rte.RKANPARU(KDSENV)
```

- On the next panel, select the products for which you want to add application support. (If you want to collect historical data, be sure to select the Warehouse Proxy and Summarization and Pruning agents, in addition to any monitoring agents you have purchased.) Then specify whether you want to add the default managed system groups to situations when you process the application support files:

#### All

Add the default managed system groups to all applicable situations.

**Tip:** Make this selection if you have never customized situations from previous releases.

#### None

Do not add the default managed system groups to any situation.

**Tip:** Make this selection if you do not want any predefined managed system groups to be applied to your environment.

#### New

Add the default managed system groups to all situations from the application support packages being installed for the first time. Modifications are not made to managed system groups in previously upgraded application support packages.

**Tip:** Make this selection if you have customized situations from previous releases and you want to protect your customized settings, but you want to apply the predefined managed system groups to new situations.

Make a selection and click **OK**. The SQL application support files are added to the hub monitoring server. This process might take several minutes, depending on the number of products.

**Tip:** Not all situations support the default managed group setting. You might have to define the distribution of some situations later from the Tivoli Enterprise Portal. For more information about managed system groups, see the [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#).

- In Manage Tivoli® Monitoring Services, look for this message:

```
Remote seeding complete!
```

- Stop and restart the hub monitoring server.

## Configuring security on a monitoring server on z/OS®

Access to the Tivoli Enterprise Portal is controlled by user IDs defined to the Tivoli Enterprise Portal Server. If security verification is enabled on the hub Tivoli Enterprise Monitoring Server, passwords are also required.

### About this task

How security verification is controlled depends upon the operating system on which the hub is installed. A hub monitoring server running on z/OS® validates user IDs and passwords using either the product-provided security feature, Network Access Method (NAM), or one of several system authorization facility (SAF) products.

The monitoring server supports secure password encryption through the Integrated Cryptographic Service Facility (ICSF). The ICSF provides a robust encryption and decryption scheme for stored passwords and is the preferred method of password encryption. (If you do not use ICSF, the monitoring server uses a less secure encryption method.) ICSF uses symmetric secret keys for encrypting and decrypting data. For instructions on setting the password encryption key on a z/OS® monitor server with the PARMGEN method, see the comments in the KCIJVSEC (if system variables are enabled) or KCIJPSEC (if system variables are not enabled) member of the *rhilev.rte.WKANSAMU* library.

In addition to validating user IDs and passwords, a z/OS® monitoring server can be configured to redirect Take Action commands to IBM Z® NetView for authorization and execution. IBM Z® NetView uses the Tivoli Enterprise Portal user ID to check command authorization. If the user ID is authorized, the command is issued and the response is logged in the IBM Z® NetView log.

The topics in this section provide instructions for the following security configuration tasks. For information on setting up security on a hub on a distributed system, see [IBM Tivoli Monitoring: Installation and Setup Guide](#). Some monitoring agents might require additional security configuration; see the configuration documentation for the monitoring agent.

- [“Enabling security validation on a z/OS hub” on page 539](#)
- [“Resetting the password encryption key” on page 543](#)
- [“Configuring IBM Z NetView authorization of z/OS commands” on page 544](#)

## Enabling security validation on a z/OS® hub

If security validation is enabled on a z/OS® hub monitoring server, Tivoli Enterprise Portal user IDs and valid passwords must be defined to the security system used by the Tivoli Enterprise Monitoring Server.

A hub Tivoli Enterprise Monitoring Server running on z/OS® validates user IDs and passwords using either the product-provided security feature, Network Access Method (NAM), or one of the following system authorization facility products:

- RACF®
- CA-ACF2
- CA-TOP SECRET

### Before you begin

Before you enable security, your security administrator must define to the selected security system each logon ID that will be allowed to access the Tivoli Enterprise Portal Server, and the Tivoli Enterprise Portal administrator must create user accounts for those IDs. You do not have to define and authorize additional user IDs before you enable security, but you must define and authorize one administrative ID such as the `sysadmin` user ID.

**Tip:** To create additional user IDs after security validation is enabled, use one of the following methods:

- Create a new Tivoli Enterprise Portal user whose user ID matches a new or existing user defined to the security program. This is the preferred method.
- Define a Tivoli Enterprise Portal user ID to the security program.

### About this task

Complete the following steps to enable security on a z/OS® hub monitoring server:

#### Procedure

1. If you have not already done so, define the security system to be used.
  - a. In the runtime environment that contains the hub monitoring server, set the value of the **RTE\_SECURITY\_USER\_LOGON** parameter to specify the security system to be used for the runtime environment: RACF, ACF2, TSS, SAF, NAM, or NONE.
  - b. If you specified ACF2, provide the name of the ACF2 macro library as the value of the **GBL\_DSN\_ACF2\_MACLIB** parameter.
2. Enable security validation on the hub.

- a. Set the value of the **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** parameter to Y.
- b. Uncomment or add the **RTE\_SECURITY\_KAES256\_KEY** parameter, and either accept the IBM®-supplied default value "IBMTivoliMonitoringEncryptionKey" or specify a unique 32-byte password encryption key. The value is case-sensitive, and the same key must be used for all components that communicate with the hub.

**Tip:** The encryption key is shown in plain text in the configuration profile, so that the value can be used as input to create the KAES256 encryption key file. For this reason, ensure that the *rhilev.rte\_name.WCONFIG* library (for PARMGEN), or the RTEDEF (*rte\_name*) file (for Configuration Manager) is secured.

- c. Depending on whether you use PARMGEN or Configuration Manager, do the following:
    - For PARMGEN, run either the KCIJVSEC (if system variables are enabled) or KCIJPSEC (if system variables are not enabled) job in the *rhilev.rte\_name.WKANSAMU* library to create the security-related members of the runtime libraries. Alternatively, you can run the either the KCIJVSUB or KCIJPSUB composite job, which creates all the runtime members.
    - For Configuration Manager, use the GENERATE action to create the runtime members.
  - d. Set the **GBL\_DSN\_CSF\_SCSFMODO** parameter as described below:
    - For PARMGEN, this parameter can be found in WCONFIG(\$GBL\$USR).
    - For Configuration Manager, use or edit the RTEDEF(GBL\$PARM or GBL\$*par*) members as needed.
  - e. If you are enabling security after the RTE has already been configured, do one of the following:
    - For PARMGEN, recreate the runtime environment as described in [“Scenario RTE03: Changing parameters in an RTE” on page 844](#).
    - For Configuration Manager, use the GENERATE action to recreate the runtime environment.
3. Implement security, following the instructions in the appropriate section:
    - [“Implementing security with RACF” on page 540](#)
    - [“Implementing CA-ACF2 security” on page 541](#)
    - [“Implementing security with CA-TOP SECRET” on page 541](#)
  4. Verify that the user account you created can log on to the Tivoli Enterprise Portal.

### Implementing security with RACF®

To implement RACF® security after enabling security validation, recycle the monitoring server.

#### Procedure

1. If your Tivoli Enterprise Monitoring Server is running, stop it by entering:

```
P ccccccc
```

where ccccccc is the name of your monitoring server started task.

2. (Optional) If your site has a large numbers of users, you might have to increase the value assigned to the RESERVE parameter, which is **KDS\_X\_TEMS\_STORAGE\_RESERVE\_PRI**, of member KDSSYSIN in the *rhilev.rte.RKANPARU* library. After making a change, as usual, you will need to regenerate RKANPARU members accordingly.
3. Restart your Tivoli Enterprise Monitoring Server by entering the following command:

```
S ccccccc
```

where ccccccc is the name of your Tivoli Enterprise Monitoring Server started task.

## Implementing CA-ACF2 security

If you have enabled security on the hub and specified CA-ACF2 as the security system, you must take additional steps to implement it.

### About this task

Follow these steps to install an exit for CA-AF2 security validation.

### Procedure

1. If your Tivoli Enterprise Monitoring Server is running, stop it by entering the following command:

```
P cccccccc
```

where cccccccc is the name of your Tivoli Enterprise Monitoring Server started task.

2. Follow the instructions in KLVA2NEV to assemble and link KLVA2NEV. Change the -RHILEV- and -THILEV- variables as directed.  
Member KLVA2NEV in *thilev*.TKANSAM is the product-supplied interface to CA-ACF2. The product-supplied member KLV@ASM, in *rhilev.rte*.RKANSAMU (for PARMGEN) or *rPlibHilev.rte\_name*.SECEXITS (for Configuration Manager), contains sample assembly JCL. This gets assembled into the runtime environment-specific *rhilev.rte*.RKANMODU data set (for PARMGEN) and *rhilev.rte\_name*.SECEXITS (for Configuration Manager) by running the respective jobs (for PARMGEN) or GENERATE action (for Configuration Manager).
3. Define the Tivoli Enterprise Monitoring Server started task as a MUSASS to CA-ACF2:
  - a. Log on to TSO. At the READY prompt, type ACF and press Enter.
  - b. At the ACF prompt, type SET LID and press Enter.
  - c. At the LID prompt, type the following commands:

```
CH cccccccc MUSASS
```

where cccccccc is the name of the Tivoli Enterprise Monitoring Server started task.

- d. Press Enter.
- e. At the LID prompt, type END and press Enter.

If your site has a large numbers of users, you might have to increase the value assigned to the RESERVE parameter, which is **KDS\_X\_TEMS\_STORAGE\_RESERVE\_PRI**, of member KDSSYSIN in the *rhilev.rte*.RKANPARU library. After making a change, as usual, you will need to regenerate RKANPARU members accordingly. However, do this with **extreme caution** as this member is not normally altered in any way.

4. Restart your Tivoli Enterprise Monitoring Server by entering the following command:

```
S cccccccc
```

where cccccccc is the name of your Tivoli Enterprise Monitoring Server started task.

## Implementing security with CA-TOP SECRET

If you have enabled security on the hub and specified CA-TOP SECRET as the security system, you must take additional steps to implement it.

### About this task

Follow these steps to implement CA-TOP SECRET security.

1. If your Tivoli Enterprise Monitoring Server is running, stop it by entering:

```
P cccccccc
```

where cccccccc is the name of the monitoring server started task.

2. Define the monitoring server as a started task in the STC record and relate it to a master facility accessor identifier. For example:

```
TSS ADD(STC) PROC(ccccccc) ACID(master_facility_acid)
```

where *ccccccc* is the name of your monitoring server started task. The value for *master\_facility\_acid* can be the same as *ccccccc*.

3. Define the name of your Tivoli Enterprise Monitoring Server started task as a FACILITY in the CA-TOP SECRET Facility Matrix Table. Set the SIGN parameter as SIGN(M) and set MODE to MODE=FAIL. Make sure the name of your Tivoli Enterprise Monitoring Server started task and the FACILITY name match. **Example:** This example shows FACILITY statements for a site that uses CA-TOP SECRET. Some statements might not be relevant to your site or might require modification to fit the standards and configuration of your site.

```
FACILITY(USER3=NAME=task)
FACILITY(task=MODE=FAIL,ACTIVE,SHRPRF)
FACILITY(task=PGM=KLV,NOASUBM,NOABEND,NOXDEF)
FACILITY(task=ID=3,MULTIUSER,RES,WARNPW,SIGN(M))
FACILITY(task=NOINSTDATA,NORNDPW,AUTHINIT,NOPROMPT,NOAUDIT,NOMRO)
FACILITY(task=NOTSOC,LOG(INIT,SMF,MSG,SEC9))
```

4. Restart your Tivoli Enterprise Monitoring Server by entering:

```
S cccccc
```

where *ccccccc* is the name of your Tivoli Enterprise Monitoring Server started task.

## Implementing security with Network Access Method (NAM)

As an alternative to third-party security packages, you can use the product-provided security feature NAM (Network Access Method) to secure your Tivoli Enterprise Monitoring Server. However, be aware that this is a less secure method than using one of the three security packages.

### About this task

NAM user IDs are 1 to 8 characters in length and are not case-sensitive.

You can enable NAM from the system console, using the MVS™ MODIFY command. Instructions are given in the following topics.

Adding users to NAM

### About this task

Follow these steps to add users to NAM from the z/OS® system console.

### Procedure

1. Access the z/OS® system console.
2. Define a password for each user who will access the Tivoli Enterprise Portal:

```
F cccccc,NAM SET userid PASSWORD=password
```

where *ccccccc* is the name of your Tivoli Enterprise Monitoring Server started task, *userid* is the user ID, and *password* is the NAM password you want to define for that user

Adding a user ID password file to NAM

### About this task

If you are defining passwords for a large number of users, you might want to use the following procedure to set up a file containing all your NAM SET statements and execute the file once to define all passwords.

### Procedure

1. Access *rhilev.rte.RKANCMU* and create member *userid*s.

2. Edit *userid*s, and populate it with a NAM SET command for each user who will access your Tivoli Enterprise Monitoring Server.

Example:

```
NAM SET userid1 PASSWORD=password1
NAM SET userid2 PASSWORD=password2
NAM SET userid3 PASSWORD=password3
```

**Note:** Make sure there is sufficient security on the *rhilev.rte.RKANCMDU* library, as it now contains sensitive information. Also, be careful to ensure that the "userid" file is managed properly to avoid deletion by mistake (i.e. backup etc.), as this file is not part of the member generation process of the respective configuration method.

3. To execute member *userid*s, enter this command from the z/OS® system console:

```
F ccccccc,userid
```

where *ccccccc* is the name of your Tivoli Enterprise Monitoring Server started task.

## Changing the security system specification

### About this task

When you create the runtime members for the hub Tivoli Enterprise Monitoring Server, appropriate parameters are generated for the security system that you selected.

If you must convert to another security system, change the security system specification in the RTE configuration profile (**RTE\_SECURITY\_USER\_LOGON**). For the change to take effect, you must recreate the runtime members for the monitoring server before you recycle the monitoring server started task. For Configuration Manager, use the GENERATE action to recreate the runtime members. For PARMGEN, use the \$PARSE or \$PARSESV (if variables are enabled) composite job.

## Resetting the password encryption key

### About this task

The Integrated Cryptographic Services Facility (ICSF) uses a symmetric key to encrypt and decrypt data. The key is known as symmetric because the same key is used to transform plain text to cipher text (encryption) as is used to transform cipher text back to plain text (decryption). The configuration process creates a key file named KAES256 in *rhilev.rte\_name.RKANPARU* and loads the encrypted key into it.

The same key must be used on all Tivoli Management Services components in your enterprise. For example, the encryption key you set for the Tivoli Enterprise Portal must be the same value you specify for the encryption key for the hub monitoring server, and the key you set for each of the remote monitoring servers that connect to the hub must also have the same value. If you reset the key for one component, you must reset it for all of them.

The encryption key has the following characteristics:

- The key must be 32 bytes in length.
- The key is case-sensitive.
- The key cannot contain an ampersand (&) value.

If you change the encryption key on any component, you must change the key to the same value on all components that connect to the same hub.

## Procedure

1. When using Configuration Manager for the configuration of the hub runtime environment (RTE), make any additions or changes in RTEDEF(*rte\_name*) by adding or changing the RTE\_SECURITY\_KAES256KEY accordingly. When using PARMGEN for the configuration of the hub runtime environment (RTE), set the RTE\_SECURITY\_KAES256\_KEY parameter to the new value of choice as shown below:

```

000591 ** -----
000592 ** (Required) KAES256 encryption key:
...
...
000617 ** -----
000618 RTE_SECURITY_KAES256_KEY      "IBMTivoliMonitoringEncryptionKey"
000619
000620 ** -----

```

2. *When using Configuration Manager*, simply run the GENERATE action. *When using PARMGEN*, rerun the \$PARSE or \$PARSESV (if variables are enabled) composite job. The PARMGEN composite Jobs recreate the following members:

#### **WKANSAMU(KDSDKAES)**

Stand-alone Tivoli Management Services on z/OS password encryption job, if you want a sample job that you can edit manually.

#### **WKANSAMU(KCIJPSEC)**

Composite security job's KAES256 step, if you want a file-tailored job.

#### **WKANSAMU(IBMDS)**

Monitoring server started task to concatenate the ICSF load library in the STEPLIB DDNAME. IBMDS is the IBM®-supplied default; set the value to whatever you specified for the **KDS\_TEMS\_STC** parameter.

#### **WKANSAMU(KDSDKAES) or WKANSAMU(KCIJPSEC)**

Creates the encryption key member.

#### **WKANPARU(KAES256) or WKANSAMU(KCISYPJB)**

Run either WKANPARU(KAES256), the stand-alone started task procedure copy job, or WKANSAMU(KCIJPSYS), the composite system copy job that copies the modified monitoring server started task to the system procedure library.

3. *When using Configuration Manager*, simply run the GENERATE action again to refresh the required members. *When using PARMGEN*, resubmit the WKANSAMU(KDSDKAES) job to refresh the WKANPARU(KAES256) member.
4. Adjust the Tivoli Enterprise Portal Server to also use the same password encryption key (the same key must be used across your enterprise).
5. Recycle the Tivoli Enterprise Monitoring Server started task.

## **Configuring IBM Z® NetView authorization of z/OS® commands**

z/OS system commands issued from the Tivoli Enterprise Portal using Take Action commands, whether issued by a user or triggered by situations or policies, run without any authorization or audit trail. However, you can configure a monitoring server or monitoring agent address space to redirect z/OS® Take Action commands to IBM Z® NetView through the Program to Program Interface (PPI). Take Action commands issued in NetView® make full System Authorization Facility (SAF) calls for authorization. NetView® uses the Tivoli Enterprise Portal user ID to determine the NetView® operator on which the command authorization is performed. If command authorization passes, the command is executed on the NetView® operator. Messages are written to the NetView® log to provide an audit trail of the commands and the users that issued them.

### **About this task**

If you enable NetView® command authorization on the monitoring server, you must also enable NetView® to execute the commands.

Command authorization for the system commands uses the Tivoli Enterprise Portal user ID, which is passed to the NetView® program with the command. The user ID passed on a Take Action command determines the user ID that issues the command. The user ID passed when a command is driven from a situation is the user ID that last edited the situation. Only the user ID is used for command authorization. Password validation is not performed.

Take Action forwarding requires NetView® V5.3 (or V5.2 with APAR OA18449 applied) or later.

To set up NetView® for Take Action commands, complete the following steps:

1. “[Configure the monitoring server to forward Take Action commands](#)” on page 545.
2. “[Enable IBM Z NetView to authorize Take Action commands](#)” on page 545

**Note:** Some agents provide their own Take Action commands, known as *agent commands*. Agent commands have a 2-character prefix, such as *pp*: (where *pp* is the product code). These commands are not sent to the NetView® program for command authorization and execution. An example of an agent that provides agent commands is IBM® OMEGAMON® for Messaging on z/OS®.

## Configure the monitoring server to forward Take Action commands

### Procedure

- To configure Take Action command forwarding, set the parameters as shown.
  - **PARMGEN method:** In the configuration file for the runtime environment, uncomment the KDS\_PPI\_RECEIVER and KDS\_PPI\_SENDER parameters, and either accept the default values or specify your own values.
  - **Configuration Manager method:** Add the above two parameters to the RTEDEF(KDS\$PARM or KDS\$*par*) member and accept the defaults as documented or specify your own values.

### What to do next

Complete the configuration according to the scenario you are performing:

- **PARMGEN method:** For example, if you are enabling the forwarding of Take Action commands as part of configuring a runtime environment, complete the appropriate steps following the [SMPE01](#) scenario. If you are updating an existing configuration, see scenario [RTE03](#).
- **Configuration Manager method:** Run the GENERATE action on the respective RTE.

## Enable IBM Z® NetView to authorize Take Action commands

### About this task

In addition to configuring Tivoli Enterprise Monitoring Server address spaces to forward z/OS® Take Action commands to IBM Z® NetView, you must also enable NetView® to receive and execute the commands. NetView® does command authorization as part of the execution.

To enable execution of forwarded commands, complete the following steps:

**Note:**

1. If a NetView® operator ID exists that matches a Tivoli Enterprise Portal user ID, the command will be executed on the existing NetView® operator ID, if appropriate command authorization exists.
2. Be careful about mapping a Tivoli Enterprise Portal user ID to a NetView® operator ID that is used to log on to a 3270 terminal. The Take Action command might be run on an active NetView® operator with unwanted results. Mapping Tivoli Enterprise Portal user IDs to NetView® autotasks is preferable.

### Procedure

1. Define Tivoli Enterprise Portal user IDs to NetView®. To define a user ID to NetView®, perform one or more of the following actions:
  - Create a new Tivoli Enterprise Portal user ID that matches a new or existing NetView® operator ID.
  - Define an existing Tivoli Enterprise Portal user ID as a NetView® operator ID.
  - Map the TEP user ID to a valid NetView® operator ID by using the NACMD.OPID.TEPLogonid CNMSTYLE statement.

See *CNMSTYLE Initialization Statements* in *IBM Z® NetView Administration Reference* for more information on the NACMD.OPID statement. For information on defining user IDs, see [Defining Tivoli® Enterprise Portal User IDs](#) in the *IBM Z® NetView Security Reference*.

2. Perform one of the following actions:

- Define the NetView® PPI receiver in the NetView® DSIPARM member CNMSTYLE (see the following figure).

```
*****
*      Tivoli Management Services infrastructure server      *
*      *   *
* Uncomment the following (and, optionally, supply preferred OPID) to *
* initialize support for commands and messages from Tivoli Management *
* Services infrastructure and/or other APF authorized clients. See *
* command help for APSERV for information about the function and *
* clients depending on it. *
* * * * *
*****
function.autotask.APSERV = AUTOTMSI
*
AUTOTASK.?APSERV.Console = *NONE* //
AUTOTASK.?APSERV.InitCmd = APSERV CNMPCMDR
```

Figure 87: CNMSTYLE member after editing

Follow the instructions in the member. The PPI receiver for APSERV will be started during NetView® initialization.

After editing, the member should look like the following figure:

```
*****
*      Tivoli Management Services infrastructure server      *
*      *   *
* Uncomment the following (and, optionally, supply preferred OPID) to *
* initialize support for commands and messages from Tivoli Management *
* Services infrastructure and/or other APF authorized clients. See *
* command help for APSERV for information about the function and *
* clients depending on it. *
* * * * *
*****
function.autotask.APSERV = AUTOTMSI
*
AUTOTASK.?APSERV.Console = *NONE* //
AUTOTASK.?APSERV.InitCmd = APSERV CNMPCMDR
```

Figure 88: CNMSTYLE member after editing

- If you do not customize CNMSTYLE to define the receiver, start the NetView® PPI receiver manually by issuing the APSERV command.  
The APSERV command is a command server that runs on a NetView® autotask or on a virtual OST (VOST). APSERV accepts commands or messages from APF authorized programs only. The APSERV command must be running, whether started during NetView® initialization or manually, to receive the system commands from the TEMS and agent. Refer to the NetView® online help or to the *IBM Z® NetView Application Programmer's Guide* for more information on the APSERV command.
3. Verify that the IBM Z® NetView Subsystem Address Space is active with the PPI enabled. The PPI is enabled by specifying the PPIOPT keyword in sample procedure CNMSJ010 (CNMPSSI), located in the NetView® CNMSAMP data set.

### Verifying the configuration

#### About this task

Complete the following steps to verify the configuration.

#### Procedure

1. If you defined new IBM Z® NetView operator IDs, refresh NetView® operator ID definitions.
2. If you did not complete Step 2 under [“Enable IBM Z NetView to authorize Take Action commands” on page 545](#), issue the APSERV command on a NetView® autotask or VOST.

This step must be completed before monitoring server and agent system commands can successfully be sent to the NetView® program.

3. If you completed Step 2 under [“Enable IBM Z NetView to authorize Take Action commands” on page 545](#), recycle NetView® to start APSERV during NetView® initialization.
4. Restart the monitoring server and agents.
5. Using a Tivoli Enterprise Portal client, complete one of the following steps:
  - Issue an existing Take Action command.
  - Create a new Take Action command and issue it.

If the command executes successfully, you will see messages in the NetView® log. For example: If your Take Action command is D T, you will see messages similar to the following:

```
AUTOTMSI IBMUSER 13:34:21 | BNH806I TAKE ACTION COMMAND 'MVS D T (00000003) '  
RECEIVED FOR TASK SYSADMIN  
  
SYSADMIN IBMN3 13:34:21 * MVS D T  
  
SYSADMIN NTVAF 13:34:21 E IEE136I LOCAL: TIME=13.34.21 DATE=2008.233 GMT:  
TIME=18.34.21 DATE=2008.233
```

## Troubleshooting tips

### About this task

If you encounter problems using the security solution, use the following information to troubleshoot:

- Review your monitoring server or agent RKLVLOG and IBM Z® NetView log for error messages.
- If you see either of the following symptoms, the NetView® CNMLINK data set has not been concatenated as part of the monitoring server or monitoring agent RKANMODL DD statement in the startup procedure:
  - A return code of 17 in the Action Status pop-up window after a Take Action command is issued
  - A message in the RKLVLOG stating “NetView interface module unavailable: CNMCNETV”
- If you see any of the following symptoms, the NetView® APSERV command is not running:
  - A message in RKLVLOG, stating “NetView PPI send buffer rejected: 26”
  - A return code of 9 in the Action Status pop-up window after a Take Action command is issued
  - Message KRAIRA002 in RKLVLOG, similar to "KRAIRA002, Executed <DA,L> with status 9, Producer(Automation Command)
- If you see “NetView PPI send buffer rejected: 24” in the RKLVLOG, the NetView® Subsystem Interface is not active.
- If you see “NetView PPI send buffer rejected: 28” in the RKLVLOG, the Program-to-Program Interface has not been enabled.

## Enable RACF® authorization of Take Action commands

As of fix pack 1 for IBM Tivoli Monitoring Version 6.2.3, all z/OS® Take Action commands issued by the OMEGAMON agents, plus any other agents based on the Tivoli Management Services framework that run on z/OS®, can now be associated with the Tivoli Enterprise Portal user ID instead of the user ID of the started task running the agent. Using the user ID allows you to authorize the use of Take Action commands by individual portal server users while restricting it from others. You can secure these user IDs (or the RACF® groups they are in) using standard security objects provided by your site's security product. For RACF®, these are the OPERCMDS facility class and its profiles.

**Note:** This enhancement does not alter the existing behavior of the following commands:

- Prefix-style Take Action commands such as those issued by OMEGAMON for CICS and prefixed with **CP:**. These are still secured by the agent-specific security profiles set up for that purpose.

- Commands already protected by the OMEGAMON® NetView® Take Action command security facility.
- Commands issued by either the OMEGAMON® classic interfaces or the OMEGAMON® CUA interfaces and covered by their command security.

## Before you begin

Before activating this feature, you also must ensure that every Tivoli Enterprise Portal user ID (and the RACF® groups that contain it) that either manually invokes Take Action commands or indirectly invokes them via situations or policies are connected to the appropriate RACF® OPERCMDS profiles. Otherwise, RACF® may fail some of your z/OS® Take Action commands.

If your Tivoli Enterprise Portal user IDs are not currently set up in RACF® (for example, if you're using distributed LDAP to authenticate your site's Tivoli Enterprise Portal user IDs), you must either:

- Add your Tivoli Enterprise Portal user IDs to RACF®, and connect them to the appropriate OPERCMDS profiles.
- Use the user ID mapping capability (as described in [“Setting up the user ID mapping capability” on page 548](#)) to map Tivoli Enterprise Portal user IDs to new or existing RACF® user IDs that you will connect to the appropriate OPERCMDS profiles.

## About this task

As initially installed, z/OS® Take Action commands are associated with the user ID of the agent started task (the previous behavior). Use the following procedure to take advantage of the new security behavior for all agents in a particular runtime environment.

All successful and failed command executions create entries in the console log. The agent also creates audit records for all automation command actions. On z/OS®, these audit records are written to the SMF audit repository (as described in [Auditing](#)).

1. The user ID that last updated an enterprise situation or a policy is the user ID that gets authenticated for the Take Action command associated with the situation or policy.
2. The user ID defined in the <LSTUSRPRF> segment for a private situation is the user ID that gets authenticated for the Take Action command associated with the situation. If the segment is not defined, the default user ID is **AGENTCFG**.

## Procedure

1. Create a new member called KGLUMAP in your RKANPARU data set.
2. Add at least a one-line comment such as the following to the new member:

```
* z/OS Take Action commands now secured
```

This turns on the new security feature so that all z/OS® Take Action commands issued by all agents in this runtime environment will be associated with the Tivoli Enterprise Portal user ID instead of the started task user ID.

3. To revert to the old behavior of using the user ID of the started task as the issuer of the z/OS® commands for a particular agent (while retaining the new behavior for other agents), place the following line in the appropriate KxxENV member in RKANPARU, where xx is the two-character agent identifier:

```
KGL_COMMAND_AUTHOR_SECURITY_REQUIRED=N
```

## Setting up the user ID mapping capability

Instead of adding Tivoli Enterprise Portal user IDs to RACF, you can use the user ID mapping capability to map the IDs to new or existing RACF® user IDs that you will connect to the appropriate OPERCMDS profiles.

## About this task

**Important:** When creating member KGLUMAP in the RKANPARU data set, measures must be in place to secure the KGLUMAP member and also to back it up. If not, the PARMGEN reload jobs or the Configuration Manager GENERATE actions could remove this member.

## Procedure

- To map Tivoli Enterprise Portal user IDs to new or existing RACF® user IDs for Take Action validation, create member KGLUMAP in the RKANPARU data set, and add to it one or more one-line mappings of this form:

```
tepuser1 racfuser1
tepuser2 racfuser2
tepuser3 racfuser3
```

where *tepuser* is the 1- to 10-character Tivoli Enterprise Portal user ID, and *racfuser* is the 1- to 8-character RACF® user ID. The *tepuser* field (but only that field) allows a trailing \* to indicate a wildcard, as in these examples:

```
tepuser* racfuserA
sys* racfuserB
```

Note that no TSO or OMVS segments are required for any new RACF® user IDs you choose, since they will not be used to actually log on to z/OS®. Instead, they are used only for authorization against the OPERCMDS facility profiles.

## Configuring Take Action command access using SAF profiles

Configure Take Action command access using SAF profiles.

Take Action commands can be issued from the Tivoli Enterprise Portal and the OMEGAMON enhanced 3270 user interface. Users must be authorized to issue these commands.

System authorization facility (SAF) profiles can be used to define Take Action command authorization and access settings. This option provides centralized control to Take Action command access by a security administrator.

**Note:** Take Action command authorization and access can also be controlled by settings in the KGLUMAP, KGLCMAP and KppINNAM members and various environmental variables. Using these settings, any user that has update access for the KGLUMAP, KGLCMAP and KppINNAM members can manage access for Take Action commands. When using SAF profiles to define Take Action command authorization and access settings, if duplicate settings exist, the settings defined by SAF profiles are used, overriding any others.

The following tasks describe how to implement Take Action command authorization and access using SAF profiles. It is recommended that a security administrator perform these tasks.

- [“Define user access to Take Action commands using SAF profiles” on page 549](#)
- [“Define Take Action environment variables using SAF profiles” on page 552](#)
- [“Define Take Action command security settings using SAF profiles” on page 553](#)

## Define user access to Take Action commands using SAF profiles

Configure Take Action command authorization and access using SAF profiles.

### Before you begin

The use of SAF profiles for controlling Take Action command authorization and access is optional. Using SAF profiles for this purpose requires a SAF general resource class named \$KOBSEC. If resource class \$KOBSEC does not exist, it must be defined. For more information, see [“Define a SAF general resource class for securing access to OMEGAMON resources” on page 566](#).

**Note:** The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) and TEMS REST services also use the SAF interface for securing access to resources. For the enhanced 3270UI, the SAF general resource class name is customizable and specified in parameter **RTE\_SECURITY\_CLASS**. For TEMS REST services, the class name must also be \$KOBSEC.

#### About this task

The purpose of this task is to provide secure access to Take Action commands by controlling authorization and access settings using SAF profiles. Take Action commands can be associated with Tivoli Enterprise Portal user IDs instead of the user ID of the started task by mapping the IDs, and granular access to specific Take Action commands by individual users can be established.

Securing Take Action command authorization and access using SAF profiles requires the creation of the following profiles, where *smfid* is the name of the LPAR and *stc* is the name of the started task:

#### ***smfid.stc.KGLUMAP.\****

This generic profile and related discrete profiles are used to associate Take Action command security with the Tivoli Enterprise Portal user ID instead of the user ID of the started task running the agent. Using the user ID allows you to authorize the use of Take Action commands by individual users while restricting it from others.

#### ***smfid.stc.KGLCMAP.\****

This generic profile and related discrete profiles are used for Take Action command authorization management. You can authorize the use of specific Take Action commands by individual users while restricting it from others.

**Important:** To successfully implement this feature, you must define both profiles.

**Note:** Take Action command authorization and access can also be controlled using settings in the KGLUMAP and KGLCMAP members in the RKANPARU data set, as described in [“Enable RACF authorization of Take Action commands” on page 547](#). When using the settings in the KGLUMAP and KGLCMAP members to manage Take Action command access, any user that has update access to the members can control the command access, whereas with SAF profiles, managed access can be more centralized and limited. When using SAF profiles to define Take Action command authorization and access settings, if duplicate settings exist, the settings defined by SAF profiles are used, and the settings in the KGLUMAP and KGLCMAP members are ignored.

To secure Take Action commands using SAF profiles, complete the following procedure, which consists of these steps:

1. [Map user IDs using SAF profiles.](#)
2. [Define command access using SAF profiles.](#)

#### Procedure

**Important:** To successfully implement this feature, you must complete both procedures.

#### ***Map user IDs using SAF profiles***

Perform the following steps to associate user IDs to Take Action commands instead of the user ID of the started task running the agent:

1. Create the following profile in the RACF security class \$KOBSEC, and ensure the started task owner ID has READ access to the profile:

```
smfid.stc.KGLUMAP.*
```

Where *smfid* is the name of the LPAR and *stc* is the name of the started task.

2. To map Tivoli Enterprise Portal user IDs to RACF user IDs for Take Action validation:
  - a. Create generic or discrete profiles, as follows:
    - `smfid.stc.KGLUMAP.*`
    - `smfid.stc.KGLUMAP.tep_userid`
    - `smfid.stc.KGLUMAP.tep_userid_prefix*`

Where *smfid* is the LPAR name and *stc* is the started task name.

- b. Within the profile, use the APPLDATA field to specify the RACF user ID to which the Tivoli Enterprise Portal user ID is mapped.

#### Examples:

In the following example, *smfid* is the LPAR name, *stc* is the started task name, and the started task user ID does not have access to the profile:

- Generic profile `smfid.stc.KGLUMAP.*` with UACC(NONE) and empty APPLDATA (no mapping of user IDs) exists, no discrete profiles are defined, and the started task user ID does not have access to this profile. As a result, all Take Action commands are denied.

In the following examples, *smfid* is the LPAR name, *stc* is the started task name, and the started task user ID has READ access to the profile:

- Generic profile `smfid.stc.KGLUMAP.*` with empty APPLDATA (no mapping of user IDs) exists and no discrete profiles are defined. In this example, any Tivoli Enterprise Portal user can create Take Action commands running under the same authority (that is, the Tivoli Enterprise Portal user ID is not mapped).
- Generic profile `smfid.stc.KGLUMAP.*` with APPLDATA set to `RACF_userid` exists. In this example, all Tivoli Enterprise Portal user IDs are mapped to a single RACF user ID. Any Tivoli Enterprise Portal user can create Take Action commands running under the specified RACF user ID authority.
- Discrete profile `smfid.stc.KGLUMAP.tep_userid` with empty APPLDATA (no mapping of user IDs) exists. In this example, a particular Tivoli Enterprise Portal user can create Take Action commands running under the same authority (that is, the Tivoli Enterprise Portal user ID is not mapped to a RACF user ID).
- Discrete profile `smfid.stc.KGLUMAP.tep_userid` with APPLDATA set to `RACF_userid` exists. In this example, a particular Tivoli Enterprise Portal user can create Take Action commands running under the specified RACF user ID authority. This is because the Tivoli Enterprise Portal user ID is mapped to a RACF user ID.
- Generic profile `smfid.stc.KGLUMAP.tep_userid_prefix*` with APPLDATA set to `RACF_userid` exists. In this example, a group of Tivoli Enterprise Portal users can create Take Action commands running under the specified RACF user ID authority. This is because the Tivoli Enterprise Portal user IDs that match the specified prefix (`tep_userid_prefix*`) are mapped to the RACF user ID.

#### Define command access using SAF profiles

Perform the following steps to authorize user IDs for individual Take Action commands:

1. Create the following profile in the RACF security class \$KOBSEC, and ensure the started task owner ID has READ access to the profile:

```
smfid.stc.KGLCMAP.*
```

Where *smfid* is the name of the LPAR and *stc* is the name of the started task.

2. To authorize specific Take Action commands, for each command:
  - a. Create a discrete profile using the following format:

```
smfid.stc.KGLCMAP.take_action_command
```

Where *smfid* is the LPAR name, *stc* is the started task name, and *take\_action\_command* is the name of a specific Take Action command.

- b. Assign READ access to this profile for each user that should have access to this command.

### Examples:

In the following examples, *smfid* is the LPAR name and *stc* is the started task name:

- Generic profile *smfid.stc.KGLCMAP.\** does not exist. In this example, all Take Action commands are denied.
- Generic profile *smfid.stc.KGLCMAP.\** with UACC(NONE) exists, and no discrete profiles are defined. In this example, all Take Action commands are denied.
- Generic profile *smfid.stc.KGLCMAP.\** with UACC(READ) exists, and no discrete profiles are defined. In this example, any Take Action command can be run.
- Generic profile *smfid.stc.KGLCMAP.\** with UACC(NONE) exists, and no discrete profiles are defined. Any mapped user with READ access can run any Take Action command.
- Generic profile *smfid.stc.KGLCMAP.\** with UACC(NONE) exists, and discrete profile *smfid.stc.KGLCMAP.take\_action\_command* with UACC(READ) is also defined. In this example, any mapped user can run the Take Action command specified in the discrete profile.
- Generic profile *smfid.stc.KGLCMAP.\** with UACC(NONE) exists, and discrete profile *smfid.stc.KGLCMAP.take\_action\_command* is also defined. In this example, any mapped user that has READ access to the discrete profile can run the specified Take Action command.

## Define Take Action environment variables using SAF profiles

Configure environment variables for Take Action command authorization and access using SAF profiles.

### Before you begin

The use of SAF profiles for controlling Take Action command authorization and access is optional. Using SAF profiles for this purpose requires a SAF general resource class named \$KOBSEC. If resource class \$KOBSEC does not exist, it must be defined. For more information, see [“Define a SAF general resource class for securing access to OMEGAMON resources” on page 566](#).

**Note:** The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) and TEMS REST services also use the SAF interface for securing access to resources. For the enhanced 3270UI, the SAF general resource class name is customizable and specified in parameter **RTE\_SECURITY\_CLASS**. For TEMS REST services, the class name must also be \$KOBSEC.

### About this task

The following environment variables specify security settings that are used for Take Action command authorization and access:

- SOAP\_IS\_SECURE
- CMS\_VALIDATE
- KDS\_VALIDATE
- RTE\_SECURITY\_CLASS

These parameters can be set using SAF profiles, which ensures that the parameter settings are checked and enforced.

Setting the values of any of these variables using SAF profiles is optional. If these variables are set using SAF profiles, any duplicate settings of these variables are ignored.

Perform the following procedure to optionally set any of these variables with a SAF profile.

### Procedure

1. To set the value of one of the supported environment variables with a SAF profile, do the following steps:
  - a. Create a profile in the RACF security class \$KOBSEC using the following format:

```
smfid.stc.environment_variable_name
```

Where *smfid* is the name of the LPAR and *stc* is the name of the started task.

- b. Within the profile, use the APPLDATA field to specify the value of the environment variable.
2. If any variable is present in the *rHilev.ret\_name*.RKANPARU(KppENV) member, it can also be overridden by an SAF profile. If the profile is present, the value for the variable will be taken from the profile APPLDATA.

## Define Take Action command security settings using SAF profiles

Configure the **FOLD** and **CNTRLPT** (control point) security parameters for Take Action command authorization and access using SAF profiles.

### Before you begin

Review the following information:

- Security parameters **FOLD** and **CNTRLPT** are used for Take Action command authorization and access.
- In addition to using the SAF interface to set the **FOLD** and **CNTRLPT** parameters, you can also configure these parameters in the *rHilev.rte\_name*.RKANPARU(KppINNAM) member. If you use SAF profiles to set the **FOLD** and **CNTRLPT** parameters, duplicate settings in the KppINNAM members are ignored.
- Of the Take Action command security settings, only the **FOLD** and **CNTRLPT** parameters can be configured using SAF profiles. All other parameters (for example, parameters **DATA** or **VALIDATE**) are taken from the KppINNAM member.
- The use of SAF profiles for setting the **FOLD** and **CNTRLPT** parameters is optional. Using SAF profiles for this purpose requires a SAF general resource class named \$KOBSEC. If resource class \$KOBSEC does not exist, it must be defined. For more information, see [“Define a SAF general resource class for securing access to OMEGAMON resources”](#) on page 566.

**Note:** The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) and TEMS REST services also use the SAF interface for securing access to resources. For the enhanced 3270UI, the SAF general resource class name is customizable and specified in parameter **RTE\_SECURITY\_CLASS**. For TEMS REST services, the class name must also be \$KOBSEC.

### About this task

To set the **FOLD** and **CNTRLPT** parameters using the SAF interface, you must define the following profiles in SAF general resource class \$KOBSEC:

- *smfid.stc*.KLVINNAM.FOLD
- *smfid.stc*.KLVINNAM.CNTRLPT $xx$

Where *smfid* is the name of the LPAR, *stc* is the name of the started task, and  $xx$  is 01 - 99.

The **APPLDATA** field is then used to define the parameter values, respectively.

**Important:** To successfully implement this feature, you must define both profiles. If the profile for the **FOLD** parameter does not exist, the profile for the **CNTRLPT** parameter is ignored.

To set the **FOLD** and **CNTRLPT** values using SAF profiles, complete the following procedure.

### Procedure

1. Define the **FOLD** parameter, as follows:
  - a. Create the following profile in the RACF security class \$KOBSEC:

```
smfid.stc.KLVINNAM.FOLD
```

Where *smfid* is the name of the LPAR and *stc* is the name of the started task.

- b. Within the profile, use the **APPLDATA** field to specify the value of the **FOLD** parameter.
2. Perform the following steps for each control point to define:
    - a. Create the following profile in the RACF security class \$KOBSEC:

```
smfid.stc.KLVINNAM.CNTRLPTxx
```

Where *smfid* is the name of the LPAR, *stc* is the name of the started task, and *xx* is 01 - 99. For multiple control points, *xx* must be a consecutive integer value starting with 01 and not omitting any numbers.

- b. Within the profile, use the **APPLDATA** field to specify control point keywords, where *xx* is 01 - 99.

## Example

For example, creating profile *smfid.stc*.KLVINNAM.FOLD in \$KOBSEC security class with APPLDATA YES and creating profile *smfid.stc*.KLVINNAM.CNTRLPT01 in \$KOBSEC security class with **APPLDATA** containing DEFAULT APPL(CANDLE) SAF NORACF will override the settings in the KDSINNAM member:

```
FOLD(NO)
DEFAULT APPL(CANDLE) -
DSNAME(ite.RKDSNAM) -
NOSAF -
NORACF -
NODB
```

## Complete the configuration for the OMEGAMON® subsystem

Tasks described in this section are required to complete the configuration of the OMEGAMON® subsystem. This component is not used by all OMEGAMON® monitoring agents.

### Before you begin

Check whether the OMEGAMON® subsystem has already been defined to z/OS®.

For example, issue the following **DISPLAY MVS™** system command to list subsystems:

```
D SSI
```

The default name of the OMEGAMON® subsystem is CNDL.

### About this task

This subsystem is required if you have configured any of the following OMEGAMON® monitoring agents in the runtime environment:

- IBM Z® OMEGAMON® for CICS® (optional)
- IBM® OMEGAMON for IMS® on z/OS®
- IBM® OMEGAMON for Storage on z/OS®
- IBM® OMEGAMON for z/OS®

You must define the OMEGAMON® subsystem on each LPAR where you plan to start runtime environments that contain any of these monitoring agents.

When you create a runtime environment that contains one of these monitoring agents, the generated runtime members include a started task that starts the OMEGAMON® subsystem.

Optionally, you can configure your LPAR to start the OMEGAMON® subsystem whenever z/OS® restarts (IPL).

For Configuration Manager steps, refer to [“Defining the OMEGAMON subsystem to z/OS” on page 221](#). For PARMGEN steps, see below.

### Procedure

- Update the IEFSSN*xx* member of the SYS1.PARMLIB.

Create a subsystem ID entry in the appropriate PARMLIB IEFSSN $\alpha\alpha$  member. The default subsystem name generated by the configuration methods is CNDL. The default started task name is IBMCN, so an example of the SSN entry would be as follows:

```
SUBSYS SUBNAME(CNDL) INITRTN(KCNDLINT) INITPARM('SSPROC=IBMCN')
```

In addition to identifying the OMEGAMON® subsystem to the z/OS® system, this example causes an automatic start of the subsystem address space. If you do not want the subsystem started at IPL, the entry would be the following:

```
SUBSYS SUBNAME(CNDL) INITRTN(KCNDLINT)
```

**Tip:** Use the  $\alpha\alpha\alpha\alpha$ STRT member to start all configured products in the order that they should be started.

- Copy the OMEGAMON® subsystem started task (default: IBMCN) from the RKANSAMU library (PARMGEN) or *rPlibHilev.SYS1.PROCLIB* library (Configuration Manager) to PROCLIB. You can change the name of this JCL procedure to any name that meets the installation standards of your site. However, do not use the name of the OMEGAMON® subsystem (subsystem ID) as the name of your JCL procedure.
- Copy the KCNDLINT load module to an appropriate library in the LINKLIST. Follow the installation standards at your site in making the decision about an appropriate library.

## Use the RESTART parameter

The optional RESTART parameter forces the subsystem to complete initialization by passing checks designed to prevent the start of a second address space.

### About this task

The RESTART parameter requires the FORCE operand, as in this example:

```
START IBMCN,RST=' ',RESTART=FORCE'
```

You can stop the subsystem by issuing the z/OS® STOP command, as in this example:

```
STOP IBMCN
```

#### Important:

Use the RESTART parameter only if the subsystem address space ends abnormally and subsequent attempts to start the subsystem result in the CNDL018I message; this message indicates that the subsystem is already active. Verify that the subsystem address space named in the CNDL018I message is not active before using the RESTART parameter. If the RESTART parameter is used when the subsystem is already active, results are unpredictable. You must restart the subsystem to pick up any maintenance that was installed.

The OMEGAMON® subsystem cannot be executed as a batch job; it must be invoked as a started task.

## Verify the OMEGAMON® subsystem installation

To verify a first-time installation, either issue the z/OS® SETSSI command, or perform an IPL.

### About this task

If an IPL is performed, the SYSLOG contains the CNDL184I message, informing you that the OMEGAMON® subsystem initialization routine has completed. If the message is not displayed after an IPL, check your update to the IEFSSN $\alpha\alpha$  member of SYS1.PARMLIB.

If you chose automatic startup of the OMEGAMON® subsystem address space, the following messages are displayed: CNDL001, CNDL190I, CNDL034I, and CNDL027I. If the keyword parameter form of the IEFSSNxxx PARMLIB member was used, you can choose to issue the SETSSI command to define the subsystem (rather than IPL). If you choose to use the SETSSI command, or if you did not choose automatic startup at IPL, you can issue the MVS START command to start the subsystem. The following messages are displayed: CNDL001I, CNDL190I, CNDL034I, and CNDL027I.

## Complete the configuration for OMEGAMON® monitoring agents and components

Before you verify your configuration in the runtime environment, make sure you have completed all the required steps for the individual OMEGAMON monitoring agents and components.

Use this topic to locate information for completing the configuration for individual OMEGAMON products and components. The following table lists the individual OMEGAMON products and components with links to information about completing the configuration. Use this information in conjunction with the steps for multiple products in the section “Completing the configuration outside the configuration software” on page 522.

Type of subsystem monitored	Monitoring agent or component	Latest version	Links
CICS	<a href="#">IBM Z® OMEGAMON for CICS®</a>	5.6.0	<a href="#">Completing the configuration</a>
CICS	<a href="#">IBM Z® OMEGAMON® AI for CICS 6.1</a>	6.1.0	<a href="#">Completing the configuration</a>
Db2	<a href="#">IBM OMEGAMON® for Db2 Performance Expert on z/OS</a>	5.5.0	<a href="#">Completing the configuration</a>
Db2	<a href="#">IBM Z® OMEGAMON® AI for Db2</a>	6.1.0	<a href="#">Completing the configuration</a>
IMS	<a href="#">IBM OMEGAMON for IMS on z/OS</a>	5.5.0	<a href="#">Completing the configuration</a>
JVM	<a href="#">IBM Z OMEGAMON for JVM</a>	5.5.0	<a href="#">Completing the configuration</a>
JVM	<a href="#">IBM Z® OMEGAMON® AI for JVM</a>	6.1.0	<a href="#">Completing the configuration</a>
MQ Integration Bus	<a href="#">IBM OMEGAMON for Messaging on z/OS</a>	7.5.0	<a href="#">Completing the configuration</a>
Network	<a href="#">IBM OMEGAMON for Networks on z/OS</a>	5.5.1	<a href="#">Completing the configuration</a>
Network	<a href="#">IBM Z OMEGAMON Network Monitor</a>	5.6.0	<a href="#">Completing the configuration</a>
Network	<a href="#">IBM Z® OMEGAMON® AI for Networks</a>	6.1.0	<a href="#">Completing the configuration</a>
Storage	<a href="#">IBM OMEGAMON for Storage on z/OS</a>	5.5.0	<a href="#">Completing the configuration</a>
Storage	<a href="#">IBM Z OMEGAMON® AI for Storage 6.1</a>	6.1.0	<a href="#">Completing the configuration</a>
z/OS	<a href="#">IBM OMEGAMON for z/OS</a>	5.5.1	<a href="#">Completing the configuration</a>
z/OS	<a href="#">IBM Z OMEGAMON Monitor for z/OS</a>	5.6.0	<a href="#">Completing the configuration</a>
z/OS	<a href="#">IBM Z® OMEGAMON® AI for z/OS®</a>	6.1.0	<a href="#">Completing the configuration</a>
various	<a href="#">IBM Z® OMEGAMON Data Provider</a>	1.1.0	<a href="#">Getting started with OMEGAMON Data Provider Configuration</a>
various	<a href="#">OMEGAMON enhanced 3270 user interface</a>	7.5.0	<a href="#">“Complete configuration of the OMEGAMON enhanced 3270 user interface” on page 564</a>

## Install language support

If you want the Tivoli Enterprise Portal user interface, online help, and expert advice for your products to be displayed in a language other than English, you must also add *language support* to the portal server.

### About this task

For instructions on adding language support, see the [IBM Tivoli Monitoring: Installation and Setup Guide](#).

## Verify the configuration

After completing the post configuration tasks described in this section, you are ready to confirm that the products and components can run and communicate with each other.

### Procedure

1. If you have not already done so, run the configuration verification job KCIJPVAL in each runtime environment to confirm that all the required data sets, members, and configuration jobs were created, and that the jobs completed successfully. If the configuration verification report shows that a required item is missing or that a job failed, repeat the necessary configuration steps.
2. After you have verified all runtime environments, validate the operation of all components and the communication between them as follows:

<i>Table 62: Validation of the runtime environment</i>	
Configuration method	Steps
<p>If you used the Configuration Manager or the PARMGEN configuration method, a job containing all the tasks configured within the runtime environment is available to use. Complete the adjacent steps.</p>	<ol style="list-style-type: none"> <li>a. If your hub is on a distributed system or another runtime environment, start it. For more information, see the <a href="#">IBM Tivoli Monitoring: Installation and Setup Guide</a>.</li> <li>b. Run the composite job to start all tasks within this runtime environment: <div style="background-color: #f0f0f0; padding: 5px; margin: 5px 0;"> <pre>/s xxxxSTRT</pre> </div> <p>where xxxx= %RTE_STC_PREFIX% (The PARMGEN default is IBM®.)</p> <div style="border: 1px solid #0070c0; padding: 5px; margin: 5px 0;"> <p><b>Note:</b> An equivalent xxxxSTOP job is generated for stopping all tasks within the runtime environment.</p> </div> </li> <li>c. In the RKLVLOG for each monitoring agent address space, look for the messages that indicate successful startup. Also look for messages indicating that the monitoring agents or remote monitoring server have successfully connected to the hub, if applicable. Consult the product-specific Planning and Configuration guides for more information.</li> <li>d. If you have enabled the self-describing agent feature, check the status of the self-describing agent application support at the hub monitoring server log, monitoring agent logs and finally any remote agent logs to ensure that the self-describing agent process has completed. For more information, see the <a href="#">IBM Tivoli Monitoring: Installation and Setup Guide</a>.</li> </ol>

3. Ensure that data collected by the monitoring agents is available on the user interface that you have chosen to use as follows:

Table 63: Data validation on user interfaces	
User interface	Steps
OMEGAMON® enhanced 3270 user interface	<p>a. If you have not already done so, start the OMEGAMON® enhanced 3270 user interface address space:</p> <pre style="background-color: #f0f0f0; padding: 5px;">/S IBMTOM</pre> <p>b. Check the SYSPRINT of the OMEGAMON® enhanced 3270 user interface and look for the messages that indicate a successful startup. The following message accompanied by no error messages indicates the completion of the OMEGAMON® enhanced 3270 user interface startup process:</p> <pre style="background-color: #f0f0f0; padding: 5px;">KOBGM0058I: Registry Refresh statistics:</pre> <p>c. Log on to the OMEGAMON® enhanced 3270 user interface and check that the initial workspace panels contain data sourced from the monitoring agents within this runtime environment.</p>
Tivoli Enterprise Portal	<p>a. On a distributed system, start the Tivoli Enterprise Portal Server and client.</p> <p>b. Log on to the Tivoli Enterprise Portal client. When the Tivoli Enterprise Portal starts, check for the managed system name that you have configured (listed under the z/OS® Systems entry in the Physical Navigator tree).</p>

**Note:** If you encounter problems, see the [IBM Tivoli Monitoring: Troubleshooting Guide](#) and the troubleshooting guide for each of your monitoring agents.

## Enable security

After you have established that your new runtime environment is configured correctly, you can safely enable the required level of security on each of the components within your runtime environment.

### About this task

Review the following list for guidance:

- If you are using mixed-case passwords, password phrase (passphrase) values, or multi-factor authentication (MFA), review possible additional configuration in [“OMEGAMON user authentication \(passwords, password phrases, and MFA\)”](#) on page 559.
- If you are using the OMEGAMON® enhanced 3270 user interface to view data, you can configure authorization by following the steps described in [“Enable security for the OMEGAMON enhanced 3270 user interface”](#) on page 564.
- If you are using the Tivoli Enterprise Portal to view data, you can create user accounts that authorize users to view the monitored data and enable authentication of those accounts by enabling security through the hub monitoring server or through the portal server. For instructions on enabling authentication on a hub monitoring server on Windows, Linux™ and UNIX™ operating systems, see the [IBM Tivoli Monitoring: Administrator's Guide](#). For instructions on enabling authentication on a hub monitoring server on z/OS® systems, see [“Configuring security on a monitoring server on z/OS”](#) on page 538.
- If you are using Tivoli Enterprise Monitoring Server (TEMS) REST services, you can enable security by following the steps described in [“Securing TEMS REST services”](#) on page 1081.

- If you intend to use the OMEGAMON® 3270 Classic interface for a monitoring agent, review security considerations in [OMEGAMON 3270 Classic interface security](#). Also, see the product-specific planning and configuration guide for each agent.
- If you use the SAF general resource class \$KOBSEC for security for any of your components, review [“Using SAF general resource class \\$KOBSEC” on page 560](#).
- If you intend to use autonomous agents on a z/OS® system and the ICSF subsystem is available on the z/OS® system, you can enable SNMP V3 passwords. For more information, see [“Enabling SNMP V3 passwords for autonomous agents” on page 563](#).

## OMEGAMON user authentication (passwords, password phrases, and MFA)

You can use a password, a password phrase (passphrase), and multi-factor authentication (MFA) to log on securely to an OMEGAMON product or component.

A password is a traditional one to eight character alphanumeric value. A password phrase is a character string that consists of mixed-case letters, numbers, and special characters including blanks. MFA is an authentication method that typically requires a six-digit volatile numeric token that is paired with a password or passphrase value.

Depending on the OMEGAMON component and the authentication method you choose to use, some additional configuration might be necessary, especially if you are moving from traditional passwords to more secure methods. This topic provides general information about some of the considerations and configuration steps that might be required.

**Note:** Support for mixed-case passwords on your system requires activation of the SETROPTS PASSWORD(MIXEDCASE) option in RACF®.

### Allowing mixed-case values in Tivoli Management Services

By default, the TMS:Engine folds password and passphrase values to uppercase. To use mixed-case password or passphrase values with certain OMEGAMON products and components, you must allow mixed-case values by disabling the folding of these values to uppercase. This behavior is controlled using the **RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG** parameter. The default setting for this parameter is Y, which folds the password and passphrase values to uppercase. To use mixed-case password or passphrase values, you must change this setting to N, which disables the folding of the value to uppercase, allowing mixed-case values to persist.

Use of the **RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG** parameter affects the following components:

- Tivoli Enterprise Monitoring Server
- Tivoli Enterprise Portal
- Tivoli Enterprise Monitoring Server (TEMS) REST services
- OMEGAMON enhanced 3270 user interface (passwords only)

**Note:** See the following section, [OMEGAMON enhanced 3270 user interface](#), for details about using passphrase with this interface.

- OMEGAMON Classic 3270 interface (passwords only)

**Note:** See the later section, [OMEGAMON Classic 3270 interface](#), for details about using passphrase with this interface.

### OMEGAMON enhanced 3270 user interface

By default, the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) is configured to use traditional passwords in uppercase, and mixed-case passphrase and multi-factor authentication values. To use mixed-

case passwords (eight characters or less), parameter `RTE_SECURITY_FOLD_PASSWORD_FLAG` must be set to N.

For more information, see the **Passphrase and MFA (KOBHLPPM)** topic in the online help in the product.

**Note:** Parameter `RTE_SECURITY_FOLD_PASSWORD_FLAG` does not impact passphrase values for the OMEGAMON enhanced 3270UI.

### OMEGAMON Classic 3270 interface

By default, the OMEGAMON 3270 Classic interface is configured to use traditional passwords in uppercase. To use mixed-case passwords (eight characters or less), parameter `RTE_SECURITY_FOLD_PASSWORD_FLAG` must be set to N.

To use passphrase values and multi-factor authentication for the OMEGAMON 3270 Classic interface, you must configure your product to enable support. Multiple passphrase configuration options are available that affect the length of the passphrase that is supported on a single line and the layout of the logon screen. For more information, see [OMEGAMON 3270 Classic interface security](#) and “[How to: Configure passphrase and MFA support in the OMEGAMON 3270 Classic interface](#)” on page 362.

**Note:** Parameter `RTE_SECURITY_FOLD_PASSWORD_FLAG` does not impact passphrase values for the OMEGAMON 3270 Classic interface.

**Note:** If you will be using passphrase values and MFA with the OMEGAMON 3270 Classic interface, OMEGAMON uses the System Authorization Facility (SAF) interface (which is used to implement external security) without the use of external security exits.

### Related links

- [RTE\\_SECURITY\\_FOLD\\_PASSWORD\\_FLAG](#)
- *z/OS Security Server RACF Security Administrator's Guide: [Passwords and password phrases](#)*
- *z/OS Security Server RACF Security Administrator's Guide: [Multi-Factor Authentication for z/OS](#)*

### Using SAF general resource class \$KOBSEC

You can use the SAF general resource class named \$KOBSEC to secure access to resources for multiple product components.

Various Tivoli® Management Services on z/OS® and OMEGAMON components use (or can use) the system authorization facility (SAF) interface to implement security. By using SAF, you can centrally control access to z/OS resources (such as data sets and commands) and access to OMEGAMON resources (such as situations, Take Action commands, and user interface elements).

Security is enabled by specifying the name of a SAF general resource class and defining resource profiles to control access. When using the SAF interface to secure TEMS REST services or control access to Take Action commands for all of the TEMS, the SAF general resource class must be named \$KOBSEC. When using the SAF interface for securing the OMEGAMON® enhanced 3270 user interface (enhanced 3270UI), you can optionally use the \$KOBSEC class. If you use the class \$KOBSEC for the enhanced 3270UI, it is possible for the resource profiles to overlap.

The following sections provide an overview of the resource profiles that are used for securing the resources for these components and considerations when using the \$KOBSEC general resource class.

### Protected resources

The following table summarizes the resources for which access can be controlled by the SAF interface for these components:

- [TEMS REST services](#)

- [OMEGAMON® enhanced 3270 user interface](#)
- [TEMS Take Action commands](#)

**Note:** For more information about any of the resources in the table, use the link provided in the *Resource description* column.

Table 64: Protected resources			
Component	Resource description	Resource pattern	Resource class
TEMS REST services	<a href="#">Collection data requested with GET /data</a>	<i>Kpp.node_name.table_name</i>	\$KOBSEC
TEMS REST services	<a href="#">Retrieve or delete history collection configurations with /data/historycollections</a>	04SRV.HISTORYCOLLECTIONS. <i>uadvisor_name</i>	\$KOBSEC
		<b>Note:</b> The required access varies depending on the REST method used.	
TEMS REST services	<a href="#">Retrieve, edit, create, replace, or delete situations with /situations</a>	04SRV.SITUATIONS. <i>situation_name</i>	\$KOBSEC
		<b>Note:</b> The required access varies depending on the REST method used.	
TEMS REST services	<a href="#">Situation status information requested with GET /situations/status and GET /situations/status/history</a>	04SRV.SITUATIONS.STATUS. <i>situation_name</i>	\$KOBSEC
TEMS REST services	<a href="#">Start and stop situations with POST /situations/start and POST /situations/stop</a>	04SRV.SITUATIONS.STARTSTOP. <i>situation_name</i>	\$KOBSEC
TEMS REST services	<a href="#">Retrieve or delete Take Action definitions with /system/actions</a>	04SRV.ACTIONS. <i>Kpp.key</i>	\$KOBSEC
		<b>Note:</b> The required access varies depending on the REST method used.	
TEMS REST services	<a href="#">Execute a Take Action with POST /system/actions/execute</a>	04SRV.ACTIONS.EXECUTE. <i>Kpp.key</i>	\$KOBSEC
		<b>Note:</b> If you use resource class \$KOBSEC to secure the use of Take Action commands in the enhanced 3270UI, then resource profile <i>Kpp.msn</i> . TAKEACTION also applies when executing a Take Action in TEMS REST services.	
Enhanced 3270UI	<a href="#">Logon access</a>	KOB.LOGON.**	user-defined

Component	Resource description	Resource pattern	Resource class
Enhanced 3270UI	<u>Near-term history</u>	KOBUI.ADMIN.DEFINEHISTORY.hub_name  <b>Note:</b> To authorize updates to near-term history, the 04SRV.** resource must be defined to the general SAF security class (RTE_SECURITY_CLASS), or the query security class (KOB_SAF_QUERY_CLASS_NAME), if one is defined.	user-defined
Enhanced 3270UI	<u>Take Action command access</u>	Kpp.msn.TAKEACTION	user-defined
Enhanced 3270UI	<u>Query profiles (access to data sources)</u>	Kpp.msn.tablename	user-defined
Enhanced 3270UI	<u>Additional interface activities</u>	KOBUI.ADMIN.interface_activity KOBUI.USER.COMMAND.command  SYSTEM.**	user-defined
Enhanced 3270UI	<u>Multi-tenancy mode tenant definitions</u>	KOBUI.MULTI.CUST.customerID KOBUI.MULTI.GROUP.group	user-defined
TEMS Take Action commands	<u>Take Action command access</u>	smfid.stc.KGLUMAP.tep_userid smfid.stc.KGLCMAP.take_action_command	\$KOBSEC
TEMS Take Action commands	<u>Take Action environment variables</u>	smfid.stc.SOAP_IS_SECURE smfid.stc.CMS_VALIDATE  smfid.stc.KDS_VALIDATE smfid.stc.RTE_SECURITY_CLASS	\$KOBSEC
TEMS Take Action commands	<u>Take Action command security settings</u>	smfid.stc.KLVINNAM.FOLD smfid.stc.KLVINNAM.CNTRLPTxx	\$KOBSEC

### Considerations when using the \$KOBSEC class

Review the following information:

- When using the SAF interface to secure TEMS REST services or to control access to Take Action commands across all TEMS applications, the SAF general resource class must be named \$KOBSEC.
- For the OMEGAMON® enhanced 3270 user interface, the SAF general resource class name is customizable and specified in parameter **RTE\_SECURITY\_CLASS**.  
If you decide to use \$KOBSEC as the SAF general resource class for the enhanced 3270UI, then it must be specified in the **RTE\_SECURITY\_CLASS** parameter in the runtime environment configuration.  
For more information about defining the SAF general resource class for the enhanced 3270UI, see [“Enable security for the OMEGAMON enhanced 3270 user interface” on page 564](#).
- If resource class \$KOBSEC does not exist, it must be defined. For more information, see [“Define a SAF general resource class for securing access to OMEGAMON resources” on page 566](#).
- If you use class \$KOBSEC for securing the enhanced 3270UI, it is possible for the resource profiles to overlap with those for TEMS REST services. Review the following cases:
  - You might define resource profile 04SRV.\*\* with UACC(NONE) to secure near-term history in the enhanced 3270UI. If this profile exists in your \$KOBSEC resource class, it would overrule the profiles that are used with TEMS REST services. If this is the case, define the following profiles (as applicable) to allow access using TEMS REST services to all situations (including the ability to start and stop situations), situation statuses, history collection configurations, and Take Action activities before restricting access to specific resources:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.* UACC(READ)
```

**Note:** To allow users to edit or create situations, you must provide UPDATE access. To allow users to replace or delete situations, you must provide ALTER access.

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STATUS.* UACC(READ)
```

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STARTSTOP.* UACC(READ)
```

```
RDEFINE $KOBSEC 04SRV.HISTORYCOLLECTIONS.* UACC(READ)
```

**Note:** To allow users to delete history collection configurations, you must provide ALTER access.

```
RDEFINE $KOBSEC 04SRV.ACTIONS.** UACC(ALTER)
```

```
RDEFINE $KOBSEC 04SRV.ACTIONS.EXECUTE.** UACC(READ)
```

- If you use resource profile *Kpp.msn.TAKEACTION* to secure the use of Take Action commands in the enhanced 3270UI, this profile also applies when executing a Take Action in TEMS REST services.

## Enabling SNMP V3 passwords for autonomous agents

If you intend to use autonomous agents on a z/OS® system and the ICSF subsystem is available on the z/OS® system, you can enable SNMP V3 passwords.

### Procedure

1. From the distributed installation media for either IBM Tivoli Monitoring or IBM Tivoli Management Services on z/OS®, install the Tivoli Enterprise Monitoring Agent Framework. When you select **Tivoli Enterprise Monitoring Agent Framework** during installation, the following components are installed:
  - Tivoli Enterprise Monitoring Agent Framework
  - IBM GSKit Security Interface
  - Tivoli Enterprise Services User Interface

This software includes the **itmpwdsnmp** tool, which converts the passwords in SNMP trap configuration files from plain text into GSKit-encrypted passwords. For installation instructions, see *IBM Tivoli Monitoring: Installation and Setup Guide*.

2. Run the **itmpwdsnmp** tool on the distributed system to encrypt the passwords in an SNMP trap configuration file. For instructions, see the “SNMP PassKey encryption: itmpwdsnmp” topic in the *IBM Tivoli Monitoring: Administrator's Guide*. If you must encrypt only a few passwords, you can run the **itmpwdsnmp** tool in interactive mode.
3. Upload the SNMP trap configuration file in text mode to the *rhilev.rte.RKANDATV* data set for the runtime environment in which the monitoring agent is configured.
4. Use one of the following methods to create a KAES256 member in the *rhilev.rte.RKANPARU* data set for the runtime environment in which the monitoring agent is configured.
  - Copy the KAES256 member from the *rhilev.rte.RKANPARU* data set for the runtime environment in which the monitoring server is configured to the *rhilev.rte.RKANPARU* data set

for the runtime environment in which the monitoring agent is configured. For instructions on creating the KAES256 member, see [“Enabling security validation on a z/OS hub” on page 539](#).

- In binary mode, copy the KAES256.ser file from the keyfiles directory of the distributed system where you ran the itmpwdsnmp tool to the KAES256 member of the *rhilev.rte*.RKANPARU data set for the runtime environment in which the monitoring agent is configured. The KAES256.ser file contains 48 bytes on distributed systems and is padded with blanks in the KAES256 member of the *rhilev.rte*.RKANPARU data set.
5. Concatenate the ICSF modules for monitoring agent procs by setting the [“GBL\\_DSN\\_CSF\\_SCSFMODE” on page 280](#) parameter depending on whether you use PARMGEN or Configuration Manager:
    - For *PARMGEN*, this parameter can be found in WCONFIG(\$GBL\$USR).
    - For *Configuration Manager*, use or edit the RTEDEF(GBL\$PARM) or RTEDEF(GBL\$lpar) members as needed.
  6. Restart the monitoring agent and verify that the passwords are decrypted. Check RKLVLLOG for error messages indicating failure of GSKit password decryption or failure to create SNMP V3 trap destinations.

## Complete configuration of the OMEGAMON enhanced 3270 user interface

To complete configuration of the enhanced 3270 user interface you must finish setting up security. If one has not already been created, you need to create a z/OS® UNIX® System Services user ID for the system ID used by the enhanced 3270 user interface address space.

### Enable security for the OMEGAMON enhanced 3270 user interface

Enable security for the OMEGAMON enhanced 3270 user interface by specifying the name of the SAF general resource class (or classes) to use for the runtime environment.

#### Before you begin

Authentication and authorization for users of the enhanced 3270 user interface is provided using the system authorization facility (SAF) interface. Security is enabled by specifying the name of a SAF general resource class for the runtime environment (RTE) in which the enhanced 3270 user interface is configured. A security administrator must define the general resource class if it does not already exist and define profiles to control access to the interface, the data queries issued by the interface, and the actions performed by the interface. Users or user groups must be given access to the profiles.

#### About this task

Security for the enhanced 3270 user interface is configured by specifying the name of a SAF general resource class for the **RTE\_SECURITY\_CLASS** parameter in the RTE configuration.

**Attention:** At a minimum, to use the enhanced 3270UI, the user must have SAF read authority for all data sets that are specified in the enhanced 3270UI started task procedure (except for STEPLIB). For more advanced use, the user must have SAF write authority for certain user data sets. For example, saving user settings in a profile requires write access to the runtime profile data set (RKOBPFVS DD), and modifying workspaces requires write access to the user workspace data set (UKANWENU DD). For more information, see [“Define profiles for additional interface activities” on page 570](#).

If the name of the global security class was specified during configuration of the runtime environment, no further configuration of the environment is required. If no security class was specified at the time the RTE was configured, modify the RTE by completing the steps provided in the procedure in this section.

If more granular security definitions are required, you can override the global SAF class for logon, queries, or Take Action commands. You cannot override the **RTE\_SECURITY\_CLASS** value for other enhanced user interface activities: for example, controlling auto update and access to particular hubs. You cannot override the SAF resource name prefix used for other enhanced user interface activities; the prefix is always KOBUI.

To override the **RTE\_SECURITY\_CLASS** value, add the following parameters to the *rte\_plib\_hilev.rte\_name*.WCONFIG(KOB\$PENV) member (for PARMGEN) or to the *rte\_plib\_hilev.rte\_name*.EMBEDS(KOB\$PENV) member (for Configuration Manager).

**KOB\_SAF\_LOGON\_CLASS\_NAME**

Specifies a specific security class name that is to be used for interface logon authentication. This parameter defaults to the **RTE\_SECURITY\_CLASS** parameter value. This parameter should only be specified if the **RTE\_SECURITY\_CLASS** is not being specified or a unique security class name is required for logon authorization.

#### **KOB\_SAF\_QUERY\_CLASS\_NAME**

Specifies a specific security class name that is to be used for authorization of an interface query (data retrieval). This parameter defaults to the **RTE\_SECURITY\_CLASS** parameter value. This parameter should only be specified if the **RTE\_SECURITY\_CLASS** is not being specified or a unique security class name is required for data retrieval authorization

#### **KOB\_SAF\_ACTION\_CLASS\_NAME**

Specifies a specific security class name that is to be used for Take Action authorization. This parameter defaults to the **RTE\_SECURITY\_CLASS** parameter value. This parameter should only be specified if a unique security class name is required for take action authorization.

#### **KOB\_SAF\_LOGON\_RESOURCE\_PREFIX**

Authorization to log on to the enhanced 3270 user interface is verified by checking for access to a SAF resource named in the following pattern:

```
KOB.LOGON.
```

where `KOB.LOGON.` is the logon resource prefix. This prefix can be changed by setting this parameter to another value.

**Important:** Remember to run the PARMGEN \$PARSE job or the Configuration Manager **GENERATE** action after the customization above has been done.

The enhanced 3270 user interface provides a pseudo security class named OMEGDEMO. This class name is used to implement Demo mode. In Demo mode, no authorization checks are performed. This mode should be used only at the instruction of IBM Support. To activate Demo mode, see [“Using Demo mode”](#) on page 573.

### **Procedure**

Choose the steps that apply to your installation, depending on whether you use Configuration Manager or PARMGEN.

- For Configuration Manager, perform the following steps:
  - a. Edit the `rtePlibHilev.rte_name.RTEDEF(rte_name)` member to specify the resource class name for the **RTE\_SECURITY\_CLASS** parameter.
  - b. Run the GENERATE action.
- For PARMGEN, perform the following steps:
  - a. Edit the RTE configuration profile to specify the resource class name for the **RTE\_SECURITY\_CLASS** parameter.
  - b. Resubmit the \$PARSE (or \$PARSESV) job to recreate the profile.
  - c. Submit the following jobs to update the runtime environment:
    - KCIJPLOD
    - KCIJPCPR (backs up the RKAN\* user libraries)
    - KCIJPW2R (copies WKAN\* to RKAN)

See [Scenario RTE03: Changing parameters in an RTE](#) for more information.

### **What to do next**

To complete the security setup for the OMEGAMON® enhanced 3270 user interface, the following tasks must be completed by a security administrator:

1. Define a SAF general resource class. See [“Define a SAF general resource class for securing access to OMEGAMON resources”](#) on page 566 for more information.

2. Define logon profiles to control access to the OMEGAMON® enhanced 3270 user interface. See [“Define logon profiles to control access to the interface” on page 567](#) for more information.
3. Define Take Action profiles to control access to enhanced 3270 user interface data actions. See [“Define Take Action profiles to control access to data actions in the e3270UI” on page 568](#) for more information.
4. Define Query profiles to control access to OMEGAMON® enhanced 3270 user interface data sources. See [“Define query profiles to control access to data sources” on page 570](#).
5. Define profiles to control permission for additional activities performed using the enhanced 3270 user interface. See [“Define profiles for additional interface activities” on page 570](#) for more information.
6. Permit access to the profiles by appropriate personnel. See [“Permit access to profiles” on page 573](#) for more information.

If no z/OS® UNIX® System Services ID has been created for the address space, one must be created.

## Define a SAF general resource class for securing access to OMEGAMON resources

Use this procedure to define the SAF general resource class that is used for controlling access to the OMEGAMON enhanced 3270 user interface.

### Before you begin

The resource profiles that control access to the OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) are defined within a SAF general resource class. If you already have a general resource class that you want to use that has the appropriate CDT characteristics, use that class. If you do not have an appropriate class, or you want to use a different class, one must be defined.

**Note:** If you are using SAF profiles for [controlling Take Action command access](#) or for [securing TEMS REST services](#), you can use this procedure for defining the required SAF general resource class \$KOBSEC.

The enhanced 3270UI security will be significantly different from OMEGAMON security definitions that you might already have for other OMEGAMON interfaces like the OMEGAMON II CUA and or Classic interfaces. It is recommended that a new security class along with its required resource definitions be established for the enhanced 3270UI, as without change prior security definitions will not be compatible. However, you can review existing OMEGAMON security definitions to review authorizations granted to users.

The SAF general resource class must have the following CDT characteristics (DCT entry values):

- CASE(UPPER)
- FIRST(ALPHA,NATIONAL)
- OTHER(ALPHA,SPECIAL,NUMERIC,NATIONAL)
- MAXLENGTH(246)
- MAXLENX(246)
- KEYQUALIFIERS(0)
- PROFILESALLOWED(YES)
- GENERIC(ALLOWED)
- RACLIST(REQUIRED)

### About this task

You can define a SAF general resource class dynamically or by updating the CDT. If you are using RACF, *special* authority is required. The following procedure documents the steps for using RACF. Consult the product documentation for other security applications.

For the enhanced 3270UI, the SAF general resource class name (*classname* in the following procedure) is customizable and is specified in parameter **RTE\_SECURITY\_CLASS**.

**Note:** For controlling Take Action command access using SAF profiles or for securing TEMS REST services, the SAF general resource class name (*classname* in the following procedure) must be \$KOBSEC.

## Procedure

- Take one of the following approaches:
  - To define a SAF general resource class using the ICHERCDE macro (for RACF), code:

```
ICHERCDE CLASS=classname,
      CASE=UPPER,
      DFTRETC=4,
      DFTUACC=NONE,
      FIRST=ALPHA,
      GENLIST=ALLOWED,
      GENERIC=ALLOWED,
      MAXLENX=246,
      OTHER=ANY,
      POSIT=nnn,
      PROFDEF=YES,
      RACLIST=ALLOWED
```

Both the *classname* and POSIT number should be unique. POSIT values 0 - 18, 57 - 127, and 528 - 1023 are reserved for IBM use and should not be used for your dynamic class entries. To list the POSIT numbers currently in use, use the following command:

```
RLIST CDT * NORACF CDTINFO
```

- To define a RACF class dynamically, use the following commands:

```
SETROPTS CLASSACT(CDT) RACLIST(CDT)
RDEFINE CDT classname UACC(NONE) CDTINFO( +
  CASE(UPPER) FIRST(ALPHA,NATIONAL) OTHER(ALPHA,NATIONAL,SPECIAL,NUMERIC) +
  MAXLENGTH(246) MAXLENX(246) KEYQUALIFIERS(0) +
  PROFILESALLOWED(YES) POSIT(nnn) GENERIC(ALLOWED) +
  RACLIST(REQUIRED) )
SETROPTS RACLIST(CDT) REFRESH
SETROPTS RACLIST(classname)
SETROPTS GENERIC(classname)
SETROPTS CLASSACT(classname)
```

- If your security implementation is configured to deny access to undefined SAF resources by default and you want to enable near-term history (NTH), you must update your configuration to add the O4SRV.\*\* resource that is used to secure configuration actions.  
If a query class is being employed, the O4SRV.\*\* profile definition is added to that class instead.  
Following are example RACF SAF definitions to accomplish the security updates:

```
RDEFINE classname O4SRV.** UACC(NONE)
SETROPTS RACLIST(classname) REFRESH

PERMIT O4SRV.** ID(userid) ACCESS(READ) CLASS(classname)
```

## What to do next

Now you can define the profiles that control access to the interface itself and control administrative and user actions.

## Define logon profiles to control access to the interface

Authorization to log on to the enhanced 3270 user interface is controlled by logon profiles. These profiles must be created by a security administrator. If no SAF profile exists to protect an enhanced 3270 user interface instance, logging on to that instance is prevented.

## About this task

The enhanced 3270 user interface verifies a user's authority to log on by checking for access to an SAF resource named in the following pattern:

```
KOB.LOGON.
```

You can define a profile to control all logons to enhanced user interfaces by using the following commands:

```
RDEFINE $KOBSEC KOB.LOGON.** UACC(NONE)
SETROPTS RACLIST($KOBSEC) REFRESH
```

The logon prefix can be changed by adding the KOB\_SAF\_LOGON\_RESOURCE\_PREFIX parameter to the RKANPARU(KOBENV) member of the runtime environment in which the enhanced 3270 user interface is configured. For example:

```
KOB_SAF_LOGON_RESOURCE_PREFIX="E3270I.LOGON"
```

changes the resource name pattern for resource profiles used to control logon to the OMEGAMON® enhanced 3270 user interface to

```
E3270I.LOGON
```

*If you are using Configuration Manager, use the rPlibHilev.rte\_name.EMBEDS(KOB\$PENV) library imbed file to add the parameter to the RKANPARU(KOBENV) file.*

*If you are using PARMGEN, modify the WCONFIG(KOB\$PENV) imbed file to add the parameter to the KOBENV file.*

For both Configuration Manager and PARMGEN, the contents of the KOB\$PENV file are dynamically embedded in the KOBENV file. This prevents the parameter from being overwritten when updates or maintenance is applied.

For initial testing of your configuration, the OMEGDEMO value can be used temporarily for the RTE\_SECURITY\_CLASS value to allow unrestricted logons to the enhanced 3270 user interface. The use of OMEGDEMO should be stopped as soon as you have verified the successful installation, configuration, and data gathering capabilities of the user interface started task.

## Define Take Action profiles to control access to data actions in the e3270UI

To control authorization for Take Action commands in the OMEGAMON® enhanced 3270 user interface, the security administrator must define SAF resource profiles, as described in this topic.

### Before you begin

Authorization to transmit Take Action requests from the OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) to a product agent instance is controlled by a Take Action profile named for the specific Take Action command. Enhanced 3270UI Take Action authorization is performed at both the enhanced 3270UI and the agent. Consequently, security configuration must be performed for both the enhanced 3270UI and the OMEGAMON agent.

For related considerations, refer to the agent security configuration documentation, including the following topics:

- [OMEGAMON for CICS security for Take Action commands](#)
- [OMEGAMON for Db2 security for Take Action commands](#)
- [OMEGAMON for IMS security for Take Action commands](#)
- [OMEGAMON for Messaging security for Take Action commands](#)
- [OMEGAMON for Networks security for Take Action commands](#)
- [OMEGAMON for z/OS security for Take Action commands](#)

### About this task

The enhanced 3270UI verifies the authority for a user to transmit Take Action commands by checking for access to a SAF resource named in the following pattern:

```
Kpp.msn.TAKEACTION
```

where:

**Kpp**

Is the product code of the agent instance. (See [Product codes](#).)

**msn**

Is a managed system name. A managed system name typically identifies a unique Tivoli Enterprise Monitoring Server agent instance. Note that the form of managed system names differs from product to product. Check the agent-specific documentation for information about the form used for managed system names.

**TAKEACTION**

Is a literal.

At a minimum, a SAF profile using this resource pattern must be defined in the global security class (**RTE\_SECURITY\_CLASS**) and UPDATE access authority to the profile must be given to the users allowed to issue Take Action commands for the agent. Other profiles can be created for more granular access control.

To control access to individual Take Action commands, a profile must be defined for each Take Action command. If there is no matching profile for a particular Take Action command, a request to transmit the action to the managed system name is denied.

**Note:** The format of the resource pattern for a specific Take Action command differs from product to product. Typically, the format of the resource pattern is as follows:

```
Kpp.msn.TAKEACTION.commandname
```

where *commandname* is the name of the Take Action command.

For details about defining the profiles for specific Take Action commands, refer to the agent-specific documentation.

## Example

To control the ability to issue all Take Action commands to an OMEGAMON® for z/OS® agent, define the following profile by entering the following commands:

```
RDEFINE $KOBSEC KM5.**.TAKEACTION UACC(NONE)
SETROPTS RACLIST($KOBSEC) REFRESH
```

To control the ability to issue a Take Action command to an OMEGAMON® for z/OS® agent running on sysplex IBMTST on sysplex member TSTA, in a SAF class named \$KOBSEC, define a profile named KM5.IBMTST:TSTA:MVSSYS.TAKEACTION by entering the following commands:

```
RDEFINE $KOBSEC KM5.IBMTST:TSTA:MVSSYS.TAKEACTION UACC(NONE)
SETROPTS RACLIST($KOBSEC) REFRESH
```

## What to do next

- After the Take Action profile has been defined, the security administrator must assign UPDATE access authority to the profile for the allowed users. For more information, see [“Permit access to profiles” on page 573](#).
- To control access to individual Take Action commands, a profile for each Take Action command must be defined. For more information, see the agent-specific documentation.

## Define query profiles to control access to data sources

Query profiles control access to data sources. These profiles are defined to the general SAF class (RTE\_SECURITY\_CLASS). If more granular access control is required, the profiles are defined to the class identified by the KOB\_SAF\_QUERY\_CLASS\_NAME parameter.

### About this task

The authority to issue query requests from the OMEGAMON® enhanced 3270 user interface to a product agent instance is verified by checking for access to an SAF resource named in this pattern: *Kpp.msn.tablename*

where

#### **Kpp**

Is the product code of the agent instance. For example, for OMEGAMON® for CICS, the product code is KCP. For OMEGAMON® for z/OS®, the product code is KM5. See [Product codes](#) for other products.

#### **msn**

Is a managed system name. A managed system name typically identifies a unique Tivoli Enterprise Monitoring Server agent instance. Note that the form of managed system names differs from product to product. Check the agent-specific *Configuration and Planning Guide* for information about the form used for managed system names.

#### **tablename**

Is the name of the data source (attribute group, or table) defined within the product agent. Note that if a matching SAF profile does not exist to protect a given query, that query is allowed. For example, suppose you want to control the ability to issue a query to an OMEGAMON® for z/OS® agent running on Sysplex IBMTEST on Sysplex member TSTA, for table KM5xxxxx. Assuming that the SAF class name is \$KOBSEC, you would define a profile named KM5.IBMTEST:TSTA:MVSSYS.KM5xxxxx by entering these commands:

```
RDEFINE $KOBSEC KM5.IBMTEST:TSTA:MVSSYS.KM5xxxxxx UACC(NONE)
SETROPTS RACLIST($KOBSEC) REFRESH
```

More generally, you could define a profile to control all data queries for a specific product:

```
RDEFINE $KOBSEC KM5.** UACC(NONE)
SETROPTS RACLIST($KOBSEC) REFRESH
```

To secure near-term history configuration actions, the O4SRV.\*\* profile definition must be added to the global security class definition, or to the query class, if one is used. The following are example RACF SAF definitions to accomplish the security updates:

```
RDEFINE classname O4SRV.** UACC(NONE)
SETROPTS RACLIST(classname) REFRESH

PERMIT O4SRV.** ID(userid) ACCESS(READ) CLASS(classname)
```

## Define profiles for additional interface activities

In addition to Log-on, Take Action, and Query profiles, profiles can be created to control authorization to perform additional tasks using the enhanced 3270 user interface. These profiles are defined to the class identified by the RTE\_SECURITY\_CLASS parameter.

### About this task

Depending upon how your security implementation is configured, if no SAF profile is defined for the activities listed in [“Interface activities and resource names” on page 570](#), either no users are permitted to perform the action, or all users are permitted to perform the activities. To selectively allow access, the exact resource name shown for each activity must be used in the corresponding SAF profile.

Lists the activities that can be controlled by SAF profiles and the corresponding resource names

Table 65: Interface activities and resource names	
Activity	Resource name
List users of the enhanced 3270 user interface.	KOBUI.ADMIN.LISTUSERS

Activity	Resource name
Start or stop user interface tracing.	KOBUI.ADMIN.TRACE.UI.<trace_type> where <trace_type> is one of the following values: BASIC 3270 DATA SECURITY ISPF FLOW OFF
Start or stop internal tracing.	KOBUI.ADMIN.TRACE.INTERNAL.<trace_type> where <trace_type> is one of the following values: REQUESTROUTER CONDUITMANAGER REGISTRY STATUSTHRESHOLDING SESSIONCONTROL GATEWAY ODI SAF OFF
Create or modify a profile member name that is the same as the user's user ID.	KOBUI.ADMIN.MEMBER.WRITE.RKOBPFVS.<member> then either: SAF_CLASS='DATASET' SAF_RESOURCE=<dataset_name> ACCESS=UPDATE USER=<logged_on_e3270ui_userid> or SAF_CLASS='DATASET' SAF_RESOURCE=<dataset_name> ACCESS=UPDATE USER=<interface_started_task_userid>
Modify ( <b>Save, Save As</b> ) any PDS member (for example, a workspace in DD=UKANWENU or a profile member in DD=RKOBPFVS) that is named differently than the signed-on user's user ID.	KOBUI.ADMIN.MEMBER.WRITE.<dd>.<member> Then: USER=<logged_on_e3270ui_userid> SAF_CLASS=DATASET SAF_RESOURCE=<dataset_name> ACCESS=UPDATE
Change auto-update preferences.	KOBUI.ADMIN.PREFS.AUTOUUPDATE
Enter a command on the command line.	KOBUI.USER.COMMAND.<command>
Use a hub Tivoli® Enterprise Monitoring Server from within the user interface.	KOBUI.ADMIN.USEHUB.<hub_name>
Configure near-term history	KOBUI.ADMIN.DEFINEHISTORY.<hub_name>  <div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> To authorize updates to near-term history, the 04SRV.** resource must be defined to the general SAF security class (RTE_SECURITY_CLASS), or the query security class (KOB_SAF_QUERY_CLASS_NAME), if one is defined.</p> </div>

Activity	Resource name
Stop a user session on the Tools -> Active Enhanced 3270 User Interface workspace, KOBUSERS	KOBUI.ADMIN.KILLUSER
Enable Situation Editor and Object Editor functions	<p>The following security resource profiles must be defined for these editors.</p> <ul style="list-style-type: none"> <li>• KOBUI.ADMIN.SITEDITOR</li> <li>• KOBUI.ADMIN.OBJECTEDITOR</li> <li>• 04SRV.**</li> </ul> <p>To view the editors, the users must have either read or update permission to the corresponding editor profiles (<b>KOBUI.ADMIN.SITEDITOR</b> for the Situation Editor and <b>KOBUI.ADMIN.OBJECTEDITOR</b> for the Object Editor). Users with none permission to the profiles are not able to access the editors.</p> <p>To save updates in the editors, the users must have read or update permission to the <b>04SRV.**</b> profile, as well as either read or update permission to the corresponding editor profiles. Users with none permission to the <b>04SRV.**</b> profile are not able to save updates in the editors.</p>
Send commands and queries to a given Hub TEMS via the TOM interface for IBM Tivoli Management (ITM) CMS (TEMS), Service Index or Soap consoles.	KOBUI.ADMIN.ITM.<hub_name>.SERVICEINDEX KOBUI.ADMIN.ITM.<hub_name>.<servicepoint_name>.SERVICECONSOLE KOBUI.ADMIN.ITM.<hub_name>.<servicepoint_name>.SOAPCONSOLE
User session initialization Hub TEMS information retrieval	SYSTEM.**
Configure multi-tenancy	KOBUI.MULTI.CUST.<customerID> KOBUI.MULTI.GROUP.<group> For more information, see <a href="#">Creating tenant definitions in RACF</a> .

## Examples

Note that the resource rules begin with KOBUI.USER.xxx, KOBUI.ADMIN.xxx, or KOBUI.MULTI.xxx. This naming convention enables the administrator to write a minimal number of SAF resource rules and still secure important parts of the user interface. For example, the administrator could DENY all users access to tracing functions by creating this single SAF rule:

```
RDEFINE $OMEGZOS KOBUI.ADMIN.TRACE.** UACC(NONE)
```

In all cases of resource checking, the SAF class name used is the name that was configured for the enhanced 3270 address space with the RTE\_SECURITY\_CLASS environmental variable (found in the KOBENV PDS member of the dataset associated with the RKANPAR DD name), for example: RTE\_SECURITY\_CLASS=\$OMEGZOS.

Here are a few examples of securing user interface activities using RACF® commands. For security products other than RACF® (such as CA Top Secret for z/OS® and CA ACF2 for z/OS®) use the corresponding commands instead of RDEFINE and PERMIT to perform the same type of function.

```
DEFINE $OMEGZOS KOBUI.ADMIN.PREFS.AUTOUUPDATE UACC(NONE)
```

Prevents all users from altering the Auto Update interval in the user interface.

```
PERMIT KOBUI.ADMIN.PREFS.AUTOUUPDATE CLASS($OMEGZOS) ID(DHODS2) ACCESS(READ)
```

Allows user DHODS2 to change the Auto Update interval in the user interface.

```
RDEFINE $OMEGZOS KOBUI.ADMIN.MEMBER.WRITE.RKOBPFVS.Q* UACC(NONE)
```

Prevents all users from saving profile PDS members that start with the letter Q.

```
RDEFINE $OMEGZOS KOBUI.ADMIN.MEMBER.WRITE.UKANWENU.KCP* UACC(NONE)
```

Prevents users from saving workspace PDS members that start with the letters KCP

```
RDEFINE $OMEGZOS KOBUI.ADMIN.USEHUB.** UACC(READ)
```

Allows all users access to queries using any hub monitoring server name.

```
RDEFINE $OMEGZOS KOBUI.ADMIN.USEHUB.M5D0HAHB:CMS UACC(NONE)
```

Prevents all users from access to queries using the hub monitoring server named M5D0HAHB:CMS.

```
PERMIT KOBUI.ADMIN.USEHUB.M5D0HAHB:CMS CLASS($OMEGZOS) ID(DHODS2) ACCESS(READ)
```

Allows user DHODS2 to issue queries using the hub monitoring server named M5D0HAHB:CMS.

```
RDEFINE $OMEGZOS KOBUI.ADMIN.KILLUSER UACC(NONE)
```

If this resource does not exist, or if it exists with UACC(NONE), then all users are prevented from stopping Enhanced 3270 User Interface sessions. Stopping your own session is never permitted, regardless of the SAF setting.

```
PERMIT KOBUI.ADMIN.KILLUSER CLASS($OMEGZOS) ID(DHODS2) ACCESS(READ)
```

Allows user DHODS2 to stop other Enhanced 3270 User Interface sessions.

## Permit access to profiles

To be authorized for an OMEGAMON enhanced 3270 user interface protected resource, a user or group must be *permitted* access to the associated resource profile.

## About this task

The following list describes the authorizations that are needed:

- To log on to the enhanced 3270 user interface, a user requires READ access authority to the [logon profile](#).
- To transmit a Take Action request from the enhanced 3270 user interface to a product agent instance, a user requires UPDATE access authority to the [Take Action profile](#). Note that if no matching SAF profile exists to protect a Take Action, that Take Action command is denied.
- To issue a query request from the enhanced 3270 user interface to a product agent instance, a user requires READ access authority to the [query profile](#).

Your security administrator will know best how to grant permissions to access these resources.

## Example

As an example, assuming a SAF class name of \$KOBSEC, your security administrator can allow a user or group access to the following enhanced 3270 user interface resource profiles by entering the following commands:

```
PERMIT KOB.LOGON.** ID(userid) ACCESS(READ) CLASS($KOBSEC)
PERMIT Kpp.**.TAKEACTION ID(userid) ACCESS(UPDATE) CLASS($KOBSEC)
PERMIT Kpp.** ID(userid) ACCESS(READ) CLASS($KOBSEC)
```

## Using Demo mode

The OMEGAMON® enhanced 3270 user interface provides a pseudo security class named OMEGDemo. This class name is used to implement demo mode. In demo mode, no authorization checks are performed. Use this mode only if instructed by IBM® Software Support.

## Procedure

- To activate Demo mode, use the configuration method of your choice (Configuration Manager or PARMGEN) to set the RTE\_SECURITY\_CLASS parameter for the runtime environment in which the enhanced 3270 user interface is configured to OMEGDemo.
- If Demo mode is in effect at startup, the following messages are written to the DDNAME SYSPRINT log that is written to SYSOUT:  
KOBSC0001A PLEASE REVIEW THE SECURITY SET UP INFORMATION

KOBCS0001A SAF SECURITY HAS NOT BEEN ENABLED/CONFIGURED

KOBCS0001A THIS PRODUCT IS RUNNING UNSECURED!!

## (Optional) Define SAF application ID

You can optionally specify a SAF application ID for use with the OMEGAMON enhanced 3270 user interface, overriding the default value.

### Before you begin

The OMEGAMON enhanced 3270 user interface reads the PDS member `rte_plib_hilev.rte_name.RKANPARU(KOBENV)` to obtain the SAF security configuration values for authentication and authorization.

Parameter **KOB\_SAF\_APPLID** can be added to the file to specify the SAF application ID. If parameter **KOB\_SAF\_APPLID** is omitted from `RKANPARU(KOBENV)`, the value `CANDLE` will be used.

### About this task

The default value for the SAF application ID that is used for the enhanced 3270 user interface is `CANDLE`. You can change this value by adding the **KOB\_SAF\_APPLID** parameter to the `RKANPARU(KOBENV)` member of the runtime environment in which the enhanced 3270 user interface is configured. For example:

```
KOB_SAF_APPLID=safapplid
```

where *safapplid* is the name of the SAF application ID.

You can use the embed file `KOB$PENV` to add the statement to the `RKANPARU(KOBENV)` file, which prevents the parameter from being overwritten when updates or maintenance is applied.

### Procedure

To define the SAF application ID for your OMEGAMON enhanced 3270 user interface, overriding the default value, perform the following steps using either of the following methods:

- Using Configuration Manager:
  - a. Add the following statement to the `rte_plib_hilev.rte_name.EMBEDS(KOB$PENV)` embed file:

```
KOB_SAF_APPLID=safapplid
```

where *safapplid* is the name of the SAF application ID.

- b. Run the **GENERATE** command.  
The contents of the `KOB$PENV` file are dynamically embedded in the `KOBENV` file.

Recycle the OMEGAMON enhanced 3270 user interface started task for the configuration changes to take effect.

**Note:** For more information about changing parameter values after you have completed configuration of the runtime environment using Configuration Manager, see [“Creating or updating a runtime environment” on page 229](#).

- Using PARMGEN,
  - a. Add the following statement to the `WCONFIG(KOB$PENV)` embed file:

```
KOB_SAF_APPLID=safapplid
```

where *safapplid* is the name of the SAF application ID.

- b. Submit the `$PARSE` job to refresh the profile.  
The contents of the `KOB$PENV` file are dynamically embedded in the `KOBENV` file.

Recycle the OMEGAMON enhanced 3270 user interface started task for the configuration changes to take effect.

**Note:** For more information about changing parameter values after you have completed configuration of the runtime environment using PARMGEN, see [“Scenario RTE03: Changing parameters in an RTE” on page 844](#).

## Create a z/OS® UNIX® System Services ID for the address space

The enhanced 3270 user interface address space uses the z/OS UNIX API for TCP/IP communications, so the user ID associated with the address space must be defined to your security product as a z/OS UNIX user. If this user ID is not already defined, you should define it now.

### About this task

The user ID for the address space must be defined using the security authorization facility (RACF, for example) to contain what is known as an OMVS Segment. As part of defining the OMVS Segment for the user ID, you must also supply a z/OS UNIX UID. The UID you supply does not need to have superuser authority (that is, UID=0 is not required). The following is an example of a RACF ADDUSER command that defines an OMVS Segment and a UID for a new RACF user ID:

```
ADDUSER userid ... OMVS(UID(nnn) ...)
```

## (Optional) Enable maintenance of the historical data store

If you intend to enable historical data collection and have allocated the historical data set and configured maintenance for data store, you must perform two additional tasks to enable the maintenance.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The KPDPROC1 maintenance procedure that is used to maintain the physical files must have the required authority to read, write, and update the files.

The KPDPROCC REXX™ procedure runs in a TSO environment and must be enabled to run as an authorized program under TSO. To authorize the KPDPROCC procedure, you must authorize the KPDDSCO module.

If you are upgrading an existing monitoring server, you must also refresh the KPDPROC1 maintenance procedure in your system procedure library.

### Procedure

1. Ensure that KPDPROC1 procedure has the necessary authority to read, write, and update the persistent data store files.
2. Authorize the KPDDSCO module by adding KPDDSCO to the system PARMGEN(IKJTSONn) under the AUTHPGM section and refresh the IKJTSONn member by issuing the set command (**T IKJTSONn**). You might request that authorized system programmers perform this step so it can be scheduled with the LPAR change control processes.
3. Verify that the configuration and authorization has been successful:
  - a. Bring up the started task (for monitoring server or monitoring agent) that will collect historical data into the product's persistent data store libraries. In the RKPDLLOG DDNAME started task, find any persistent data store libraries in a non-Offline status (for example, Partial or Full status).
  - b. From a z/OS® operator console, issue the following z/OS® MODIFY command:

```
/F stcname,KPDCMD RECOVER FILE=DSN:pds_data set
```

where *stcname* is the name of the started task performing the persistent data store collection, and *pds\_data set* is the persistent data store data set.

For example, issue the following MODIFY command for the monitoring server:

```
/F CIDSST,KPDCMD RECOVER FILE=+  
DSN:rhilev.rte.RGENHIS1
```

- c. Wait 5 minutes.
- d. In the RKPDLLOG DDNAME started task, find the following Command: and KPDDSTR: references as shown in the following monitoring server RKPDLLOG DDNAME example:

```
Command: RESUME FILE=DSN:rhilev.rte.RGENHIS1  
KPDDSTR: CONNECT processing started for DataStore file  
DSN:rhilev.rte.RGENHIS1  
KPDDSTR: CONNECT processing ended for DataStore file  
DSN:rhilev.rte.RGENHIS1
```

- e. If these references are not found, view the KPDPROC1 started task in SDSF and look for any obvious errors.

## What to do next

Even though the historical data store is allocated and configured, no historical data is collected until collection is enabled using the Tivoli Enterprise Portal.

## (Optional) Configure historical data collection

No historical data is collected unless the collection of historical data is configured in the Tivoli Enterprise Portal or the OMEGAMON enhanced 3270 user interface (3270UI).

### Before you begin

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Data sets for storing the collected historical data must be allocated before you begin historical data collection.

### About this task

In the Tivoli Enterprise Portal, you configure and start historical data collection through the History Collection Configuration window of the Tivoli Enterprise Portal. In this window, you specify the attribute groups for which you want data to be collected, the interval for data collection, the location where you want the collected data to be stored (at the monitoring server or at the agent), and whether you want the data to be migrated to the Tivoli® Data Warehouse.

In the enhanced 3270UI, you configure historical data collection using the OMEGAMON History Configuration workspace. The workspace is displayed after you select the application and attribute group for which you want to collect data. Then, you specify the interval for data collection, the location where you want the collected data to be stored (at the monitoring server or at the agent), and the managed system or managed system list on which you want data collected. You cannot configure data warehousing through the enhanced 3270UI, nor can you configure summarization and pruning. Only a subset of attributes can be configured and displayed in the enhanced 3270UI.

Both interfaces list the attribute groups, or *tables*, for each application that are enabled for historical collection and reporting. To enable historical data collection, you must select and configure each attribute table for which you want to collect data, and then start collection for those tables. If you want to warehouse the data for long-term historical reporting, you must set the Warehouse Interval to the interval at which data is warehoused.

For detailed instructions on configuring history data collection in the Tivoli Enterprise Portal, see the [IBM Tivoli Monitoring: Administrator's Guide](#) and the Tivoli Enterprise Portal online help. For instructions on configuring historical data collection in the enhanced 3270UI, see [“Configuring near-term history” on page 932](#).

## (Optional) Configure situation status streaming

Enable situation status streaming from the Tivoli Enterprise Monitoring Server to IBM Z® OMEGAMON Data Provider. You must use Configuration Manager to configure situation status streaming.

### Before you begin

*Situation status streaming* forwards situation status updates from the Tivoli Enterprise Monitoring Server (*monitoring server*) to IBM Z® OMEGAMON Data Provider in JSON format. OMEGAMON® Data Provider can then forward the data to integrated third-party analytics platforms.

When situation status streaming is enabled, it is enabled for all situations; you cannot enable situation status streaming for only specific situations. For more information about using situation status streaming, see [“Stream situation status updates to OMEGAMON Data Provider” on page 1126](#).

### About this task

The following list describes the requirements for configuring situation status streaming:

- IBM Z OMEGAMON Data Provider (with APAR OA68403) must be installed and configured with OMEGAMON Data Broker and OMEGAMON Data Connect components configured and running and at least one analytics platform integrated. For more information, see [Getting started with OMEGAMON Data Provider](#).

**Note:** If OMEGAMON Data Provider is not installed, the error message `Unable to load KAY10DP` is displayed in the log.

- Situation status streaming must be enabled by setting monitoring server parameter **KDS\_STREAM\_SITUATION\_STATUS** to Y.
- Situation status streaming requires mapping extension JAR file `ksm-odp-model-v.jar`.

**Note:** The three-character product code for situation status streaming is `ksm`.

Complete the following steps to configure situation status streaming.

### Procedure

1. If you have not already done so, perform the steps to [add OMEGAMON Data Provider to your runtime environment](#). The [results](#) describe the changes made to the runtime environment.
2. If you have not already done so, configure OMEGAMON Data Provider. See [Getting started with OMEGAMON Data Provider](#).
3. (Optional) If you want to use the mapping extension JAR file for situation status streaming in your [user directory](#), copy the `ksm-odp-model-v.jar` file to subdirectory `rte_uss_rtedir/rte_name/kay/user/extensions` from either of the following locations:
  - For a full runtime environment: `rte_uss_rtedir/rte_name/kay/kay-110/lib/ext/`
  - For a sharing runtime environment: `gbl_uss_tkayhfs_path/kay-110/lib/ext/`
4. In RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar), add (or update, as appropriate) parameter **KDS\_STREAM\_SITUATION\_STATUS**, and set the value to Y.
5. Run the [GENERATE](#) action to update the runtime environment configuration.
6. Restart the monitoring server.

### What to do next

For information about the situation properties that are forwarded to OMEGAMON Data Provider, see [“Stream situation status updates to OMEGAMON Data Provider” on page 1126](#).

# Securing communications for Tivoli Management Services on z/OS components and OMEGAMON products

Review information about setting up secure communications for Tivoli Management Services on z/OS components and your OMEGAMON products.

## Where to find information about securing communications

Use this topic to locate information about securing communications between Tivoli Management Services on z/OS components and for individual OMEGAMON products.

The table contains links to topics about securing communication between Tivoli Management Services on z/OS components and for individual OMEGAMON products.

<i>Table 66: Topics about securing communications for Tivoli Management Services on z/OS components and OMEGAMON products</i>	
<b>Description</b>	<b>Where to find information</b>
Securing communications between components on z/OS	<p><i>OMEGAMON shared documentation:</i></p> <ul style="list-style-type: none"> <li>• <a href="#">“Decision 6: How to set up communications between components” on page 147</a></li> <li>• <a href="#">“Secure communication between components” on page 157</a></li> <li>• <a href="#">“Setting up AT-TLS for Tivoli Management Services on z/OS components” on page 583</a></li> </ul>
Securing communications between components on distributed platforms	<ul style="list-style-type: none"> <li>• <a href="#">Tivoli Monitoring Administrator's Guide: Securing communications</a></li> <li>• <a href="#">Technote: Tivoli Monitoring Guide for Implementing CA Signed Certificates</a></li> <li>• <a href="#">Technote: TLSv1.2 configuration and lockdown</a></li> <li>• <a href="#">Technote: IBM Tivoli Monitoring (ITM) communication protocol change from IP.PIPE to IP.SPIPE</a></li> <li>• <a href="#">Configuring the Tivoli Enterprise Portal Server on a UNIX or Linux system using the GUI</a></li> </ul>
<i>For individual OMEGAMON products and components</i>	
IBM Z Service Management Explorer	<a href="#">“Configuring security for IZSME” on page 1142</a>
IBM Z® OMEGAMON® AI for Db2 6.1	<a href="#">Configuring AT-TLS encryption</a>
IBM Z OMEGAMON AI for z/OS 6.1	<a href="#">Enabling AT-TLS Secure Connectivity to the RMF Distributed Data Server (DDS)</a>

## Initial setup to activate AT-TLS

Use the information in this section if you are setting up AT-TLS at your site for the first time to secure communications for Tivoli Management Services on z/OS components and OMEGAMON products.

General AT-TLS set up occurs only once per system. AT-TLS might already be implemented at your site.

If you have not yet set up AT-TLS for your system, you can use this section for high-level guidance when setting up AT-TLS to secure communications for Tivoli Management Services on z/OS components and OMEGAMON

products. For more information about AT-TLS, see [z/OS Communications Server: IP Configuration Guide: Application Transparent Transport Layer Security data protection](#).

If AT-TLS is already enabled for your system and you are ready to modify your setup to protect Tivoli Management Services on z/OS components and OMEGAMON products, see [“Setting up AT-TLS for Tivoli Management Services on z/OS components”](#) on page 583.

At a high level, setup of AT-TLS requires updates in the following systems or locations:

- z/OS® UNIX® System Services (OMVS)
- RACF
- PARMLIB
- PROCLIB

**Note:** The examples that are provided are intended as a guide; your setup will differ, depending on the requirements of your site.

## Define security authorization for Policy Agent

Define the appropriate security authorizations for Policy Agent.

### Before you begin

You can use RACF for authorizing the necessary components for secure communications. For other security management products, refer to your product documentation.

The following terms appear in this task:

#### Policy Agent

Policy definition for AT-TLS. For more information, see [z/OS Communications Server: IP Configuration Guide: Policy Agent](#).

#### PAGENT

Policy Agent started task.

#### pasearch

z/OS® UNIX® System Services command used to query information from Policy Agent, such as displaying policy definitions.

#### syslogd

The z/OS® UNIX® System Services syslog daemon. The TCP/IP documentation recommends writing Policy Agent messages to the z/OS UNIX syslog instead of using the default log file. AT-TLS always writes messages to the z/OS UNIX syslog.

#### Related information

- [z/OS Communications Server: IP Configuration Guide: Steps for configuring the Policy Agent](#)
- [z/OS Communications Server: IP Configuration Guide: TCP/IP stack initialization access control](#)

### About this task

You must define the RACF authorization for Policy Agent started task (PAGENT) and **pasearch** commands. The steps in this procedure include providing the following protections:

#### INITSTACK protection

Policy Agent is started after TCP/IP is initialized. This means that there is a (small) window where applications can use the TCP/IP stack without the TTLS policy being enforced. Define the EZB.INITSTACK.\*.\* profile in the SERVAUTH class to prevent access to the stack during this time window, except for applications with READ access to the profile. You must permit a limited set of administrative applications to the profile to ensure full initialization of the stack, as documented in [z/OS Communications Server: IP Configuration Guide: TCP/IP stack initialization access control](#).

## pasearch protection

Define profile EZB.PAGENT.\*\* in the SERVAUTH class to restrict access to the pasearch command.

The following procedure provides example RACF commands to perform these steps.

**Note:** The examples are intended as a guide; you can organize your security definitions differently, depending on the requirements of your site.

## Procedure

Complete the following steps to set up security definitions for Policy Agent in RACF.

1. Define the RACF authorization for the PAGENT started task and **pasearch** command.  
In this example, Policy Agent runs as a z/OS started task named PAGENT. To define the Policy Agent started task to RACF, use the RDEFINE command to create the PAGENT.\* profile in the STARTED class. (The SETROPTS commands are included for completeness. These commands have no effect when the STARTED class is already activated.)

```
SETROPTS CLASSACT(STARTED)
SETROPTS RACLIST(STARTED)
SETROPTS GENERIC(STARTED)
RDEFINE STARTED PAGENT.*
RDEFINE STARTED SYSLOGD.*
```

2. Define the PAGENT user ID.  
In this example, Policy Agent runs under the z/OS user ID named PAGENT and has a default group (DFLTGRP) of OMVS and an OMVS segment with a UID of 0.

```
ADDUSER PAGENT NAME('user-name') DFLTGRP(OMVS)
ALTUSER PAGENT OMVS(UID(0),HOME(/u),PROGRAM(/bin/sh))
RALTER STARTED PAGENT.* STDATA(USER(PAGENT))
RALTER STARTED PAGENT.* STDATA(USER(SYSLOGD))
```

3. Refresh the in-storage generic profiles.

```
SETROPTS RACLIST(STARTED) REFRESH
SETROPTS GENERIC(STARTED) REFRESH
```

4. Grant Policy Agent the ability to make socket requests during TCP/IP stack initialization.  
A TCP/IP stack initializes before Policy Agent installs policies into the stack. During the initialization window, only user IDs that are permitted to the EZB.INITSTACK.*sysname*.*tcpname* profile in the SERVAUTH class can make socket requests.

```
SETROPTS CLASSACT(SERVAUTH)
SETROPTS RACLIST(SERVAUTH)
RDEFINE SERVAUTH EZB.PAGENT.sysname.tcpname.* UACC(READ)
RDEFINE SERVAUTH EZB.INITSTACK.sysname.tcpname.* UACC(READ)
SETROPTS GENERIC(SERVAUTH) REFRESH
SETROPTS RACLIST(SERVAUTH) REFRESH
```

Where *sysname* is the system name (for example, TVT5011), and *tcpname* is the TCP/IP job name (for example, TCPIP).

## (Optional) Define Common INET PFS

Define Common INET (CINET) Physical File System (PFS), if not already defined.

### Before you begin

If you want to run multiple z/OS Communications Server TCP/IP stacks concurrently, you must use the Common INET (CINET) configuration.

**Note:** Setting up and managing several TCP/IP stacks on z/OS is a separate task that is not directly related to security or encryption setup.

For more information, see the following topics in *z/OS Communications Server: IP Configuration Guide*: [Common INET PFS](#) and [Specifying BPXPRMxx values for a CINET configuration](#).

## About this task

If not already defined, you must add values for a CINET configuration.

## Procedure

1. Add the following statements to USER.PARMLIB(BPXPRM01):

```
MAXFILEPROC(20000)
SHRLIBRGNsize(134000000)

FILESYSType TYPE(CINET)
                ENTRYPOINT(BPXTcINT)
NETWORK DOMAINNAME(AF_INET)
                DOMAINNUMBER(2)
                MAXSOCKETS(20000)
                TYPE(CINET)
NETWORK DOMAINNAME(AF_INET6)
                DOMAINNUMBER(19)
                MAXSOCKETS(35000)
                TYPE(CINET)
SUBFILESYSType NAME(TCPIP)
                TYPE(CINET)
                ENTRYPOINT(EZBPFINI)
SUBFILESYSType NAME(TCIPB)
                TYPE(CINET)
                ENTRYPOINT(EZBPFINI)
```

2. Perform an IPL of the system.

## Configure Policy Agent

Complete this task to configure Policy Agent to run as a z/OS started task. You can skip this task if a Policy Agent started task is already configured on your system.

### About this task

AT-TLS is managed by the Policy Agent, which can be started as a started task.

Policy Agent reads, parses, and installs AT-TLS policies (or, TTLS) in the TCP/IP stack. The policies contain information that is necessary to negotiate secure connections.

The Policy Agent uses a configuration file to know which policies must be enforced, and where they can be found. The default configuration file is `/etc/pagent.conf`, but a different location can be specified in the Policy Agent started task JCL.

For more information about Policy Agent and running Policy Agent as a started task, see *z/OS Communications Server: IP Configuration Guide: Policy Agent and policy applications*.

## Procedure

1. Copy `hlq.SEZAINST(PAGENT)` to USER.PROCLIB.
2. Define the PAGENT environment file on the STDENV DD statement in the Policy Agent JCL.  
For example:

```
//STDENV DD PATH='/etc/pagent/pagent.env',PATHOPTS=(ORDONLY)
```

3. In the PAGENT environment file, point to a configuration file.  
For example:

```
PAGENT_CONFIG_FILE=// 'USER.PARMLIB(PAGENT)'
```

4. In the configuration file, set up policy files for each TCP/IP stack image.  
For example:

```
TcpImage TCPIP /etc/pagent/TCPIP.policy FLUSH PURGE
TcpImage TCPIPB /etc/pagent/TCPIPB.policy FLUSH PURGE
```

5. In the TcpImage file, point to the TTLS configuration file.  
For example:

```
TTLSSConfig /etc/pagent/ttls.policy
```

## Start and stop Policy Agent

Start and stop the Policy Agent started task.

### Procedure

- Issue the MVS START command to start Policy Agent as a started task.  
For example:

```
S PAGENT
```

- To perform a normal shutdown of Policy Agent, issue the MVS STOP command.  
For example:

```
P PAGENT
```

## Display policies

Use the z/OS UNIX System Services **pasearch** command to query information from the Policy Agent.

### Before you begin

For more information about the **pasearch**, see *z/OS Communications Server: IP System Administrator's Commands: [The z/OS UNIX pasearch command: Display policies.](#)*

### About this task

The **pasearch** command is issued from the z/OS UNIX System Services shell, which is invoked using the **OMVS** command.

**pasearch -t** displays all Application Transparent Transport Layer Security (AT-TLS) policy entries that match the input options for **pasearch**.

### Procedure

- From the z/OS UNIX shell, enter the following command:

```
pasearch -t
```

## Update TCP/IP profile

Activate or deactivate the AT-TLS function for the TCP/IP stack.

### Before you begin

To determine if the AT-TLS function is activated for the TCP/IP stack, you can use the following command to display TCP/IP configuration data:

```
DISPLAY TCPIP, <procname>, NETSTAT, CONFIG
```

For more information about this command, see the following topics in *z/OS Communications Server: IP System Administrator's Commands*: [DISPLAY TCPIP command](#) and [DISPLAY TCPIP,,NETSTAT](#).

## About this task

The AT-TLS function is activated by the TTLS parameter on the TCPCONFIG statement. The TTLS option must be specified to activate the AT-TLS function for the TCP/IP stack. Specifying NOTTLS deactivates the AT-TLS function for the TCP/IP stack.

The TCPCONFIG statement exists in the TCP/IP profile (PROFILE . TCPIP).

For more information, see the following topics in *z/OS Communications Server: IP Configuration Reference*: [TCP/IP profile \(PROFILE.TCPIP\)](#) and [configuration statements](#) and [TCPCONFIG statement](#).

**Note:** OBEYFILE can also be used to dynamically enable or disable TTLS .

## Procedure

- To activate or deactivate the AT-TLS function for the TCP/IP stack, update the TCPCONFIG statement in the current TCP/IP profile, as follows:
  - To activate the AT-TLS function, specify the TTLS parameter, as follows:

```
TCPCONFIG    TTLS
```

- To deactivate AT-TLS function, specify the NOTTLS parameter, as follows:

```
TCPCONFIG    NOTTLS
```

**Note:** NOTTLS is the default value.

## Setting up AT-TLS for Tivoli Management Services on z/OS components

To protect your data, you should encrypt all communication channels that are used by Tivoli Management Services on z/OS components. You can use Application Transparent Transport Layer Security (AT-TLS) to achieve secure communication.

Setting up AT-TLS for use with Tivoli Management Services on z/OS components is required if you plan to use HTTPS for communication between the Tivoli Enterprise Monitoring Server (TEMS) and other components, such as the SOAP server, the IBM Tivoli Monitoring Service Console, the **tacmd** CLI, and TEMS REST services.

**Important:** The tasks in this section require the following prerequisites:

- General AT-TLS setup has been implemented at your site. If AT-TLS is not yet activated, see [“Initial setup to activate AT-TLS”](#) on page 578.
- Security authorization for your OMEGAMON started tasks has been defined. For more information, see [“\(If needed\) Define security authorization for OMEGAMON started tasks”](#) on page 584.

To update your existing AT-TLS configuration to enable secure connections for Tivoli Management Services on z/OS components, complete the following steps:

1. [“Create digital certificates and key ring using RACF”](#) on page 585.
2. [“Define AT-TLS policy rules”](#) on page 586.

**Note:** The examples that are provided are intended as a guide; you can organize your certificates and AT-TLS rules differently, depending on the requirements of your site.

## (If needed) Define security authorization for OMEGAMON started tasks

Authorize the OMEGAMON started tasks. If you have an OMEGAMON product installed and running, then the OMEGAMON started tasks have already been authorized; you do not need to perform this task again.

### Before you begin

In this task, you authorize the z/OS user ID under which the OMEGAMON started tasks will run. This user ID is required when creating certificates and the key ring, as described in the next topic, [“Create digital certificates and key ring using RACF” on page 585](#).

If you have already authorized your OMEGAMON started tasks, you will need the z/OS user ID under which the OMEGAMON started tasks run, and you can skip this task.

If you are setting up a new installation and need to authorize your OMEGAMON started tasks, you can use the following procedure, which uses RACF for authorization. For other security management products, refer to your product documentation.

For more information about setting up your system for the first time, including [authorizing the started tasks](#), see [“FTU Task 3: Prepare the system for configuration” on page 75](#).

### About this task

You must add the OMEGAMON started task user ID to the required RACF groups. The user ID requires superuser authority (a TSO ID with an OMVS segment defined to it). For more information, see *z/OS® UNIX® System Services Planning: Superusers in z/OS UNIX*.

If you use Configuration Manager to configure your runtime environment, the prefix of the started task names is set to OMEG. Otherwise, the default prefix value is IBM. The example in the following procedure uses the OMEG prefix.

The following procedure provides example RACF commands to perform these steps.

**Note:** The examples are intended as a guide; you can define your authorizations differently, depending on the requirements of your site.

### Procedure

1. Define the z/OS user ID under which the OMEGAMON started tasks will run.  
In this example, the OMEGAMON started tasks run under the z/OS user ID named ITMUSER with the default group (DFLTGRP) of OMVS and an OMVS segment with a UID of 0:

```
ADDUSER ITMUSER NAME('user-name') DFLTGRP(OMVS)
ALTUSER ITMUSER OMVS(UID(0),HOME(/u),PROGRAM(/bin/sh))
RDEFINE STARTED OMEG*.* UACC(NONE) AUDIT(ALL(READ)) OWNER(IBMUSER)
RALTER STARTED xxx*.* DATA('installation-defined-data') +
STDATA(USER(ITMUSER) GROUP(OMVS))
```

**Note:** This example assigns a UID of 0 to give the user ID superuser authority. For more information about this method, see [Assigning a UID of 0](#).

2. Refresh the in-storage generic profiles, as follows:

```
SETROPTS REFRESH GENERIC(*)
SETROPTS REFRESH RACLIST(STARTED)
```

# Create digital certificates and key ring using RACF

Create the certificates and key ring for use with AT-TLS to secure communication between Tivoli Management Services on z/OS components.

## Before you begin

Certificates are used for authentication. You can use RACF for handling certificates for secure communications, as described in this topic.

**Tip:** You can also generate certificates outside of z/OS according to your organization policy and then import the certificates to RACF or Integrated Cryptographic Service Facility (ICSF).

For other security management products, refer to your product documentation for information about handling certificates and key rings.

### Related information

- *z/OS Security Server RACF Security Administrator's Guide: [RACF and digital certificates](#)*. For a sample setup that uses RACF, see [Scenario 1: Secure server with a certificate signed by a certificate authority](#) and [Scenario 2: Secure server with a locally signed certificate](#).
- *z/OS Planning for Multilevel Security and the Common Criteria: [Authentication via client digital certificates](#)*

## About this task

When you set up your certificates and key ring, you perform the following actions:

- Generate the certificates.
- Create the key ring that will be used in the AT-TLS rules, and add the OMEGAMON started task user ID as the owner.

**Note:** For more information about authorizing the OMEGAMON started tasks, see [“\(If needed\) Define security authorization for OMEGAMON started tasks” on page 584](#).

- Add the certificate chain to the created key ring: root, intermediate, personal certificates (certificates might vary depending on your company policies).

The following procedure provides example RACF commands to perform these actions. In the example, ITMUSER is the z/OS user ID under which the OMEGAMON started tasks run, and ITMkeyring is the name of the key ring.

**Note:** The examples are intended as a guide; you can organize your certificates differently, depending on the requirements of your site.

## Procedure

1. Enter the following RACF command to add user authority for the RACF **RACDCERT** command. In this example, ITMUSER is the z/OS user ID under which the OMEGAMON started tasks run.

```
SETROPTS CLASSACT(DIGTCERT DIGTRING)
RDEFINE FACILITY IRR.DIGTCERT.LISTRING UACC(NONE)
RDEFINE FACILITY IRR.DIGTCERT.LIST UACC(NONE)

PERMIT IRR.DIGTCERT.LIST CLASS(FACILITY) ACCESS(CONTROL) ID(ITMUSER)
PERMIT IRR.DIGTCERT.LISTRING CLASS(FACILITY) ACCESS(READ) ID(ITMUSER)

SETROPTS RACLIST (DIGTRING) REFRESH
SETROPTS RACLIST (DIGTCERT) REFRESH
SETROPTS RACLIST (FACILITY) REFRESH
SETROPTS RACLIST (FACILITY) REFRESH
```

**Tip:** Permits to IRR.DIGTCERT profiles in the FACILITY class is one way to grant key ring access permission. Another way, which is more precise, is to create a profile and grant permission to it in the RDATA LIB class. Access level CONTROL to RDATA LIB profiles is required only in some cases (for example, if the SITE certificate is used in the key ring as PERSONAL). For more information, see the following topics in *z/OS Security Server RACF Callable Services*: [RACF authorization](#) and [Usage notes](#).

2. Enter the following RACF command to generate a certificate authority (CA) certificate:

```
RACDCERT CERTAUTH
GENCERT
SUBJECTSDN(OU('<sysname>CA')
           O('IBM')
           L('Raleigh')
           SP('NC')
           C('US'))
NOTAFTER(DATE(2030-12-31))
WITHLABEL('<SYSNAME>CA')
KEYUSAGE(CERTSIGN)
```

3. Enter the following RACF command to generate a site certificate:

```
RACDCERT ID(ITMUSER)
GENCERT
SUBJECTSDN(CN('sysname.tivlab.raleigh.ibm.com')
           OU('<SYSNAME>')
           O('IBM')
           L('Raleigh')
           SP('NC')
           C('US'))
NOTAFTER(DATE(2030-12-31))
WITHLABEL('<SYSNAME>Certificate')
SIGNWITH(CERTAUTH LABEL('<SYSNAME>CA'))
```

4. Enter the following RACF commands to define the key ring, connect the certificate, and activate your changes. In this example, ITMkeyring is the name of the key ring.

```
RACDCERT ID(ITMUSER)
ADDRING(ITMkeyring)

RACDCERT ID(ITMUSER)
CONNECT(CERTAUTH LABEL('<SYSNAME>CA')
        RING(ITMkeyring))

RACDCERT ID(ITMUSER)
CONNECT(ID(ITMUSER)
        LABEL('<SYSNAME>Certificate')
        RING(ITMkeyring) DEFAULT)

SETROPTS REFRESH RACLIST(STARTED)
```

5. For a configuration with multiple systems where the remote TEMS and hub TEMS run on different LPARs, the public key of the CA certificate must be exported and saved in a data set. You must add the public key of the CA certificate to the key ring for remote clients.

```
RACDCERT CERTAUTH
EXPORT(LABEL('<sysname>CA'))
DSN('<output-data-set-name>')
```

## Define AT-TLS policy rules

Update the AT-TLS policy with rules to secure communication between Tivoli Management Services on z/OS components.

### Before you begin

The AT-TLS policy describes the AT-TLS rules. The location of the AT-TLS policy is specified in the Policy Agent configuration file.

The information in this topic provides guidance and recommendations on what is needed in the AT-TLS rules for securing communication between your Tivoli Management Services on z/OS components. Complete setup and management of AT-TLS rules requires additional RACF and IBM z/OS Communication Server administration, as follows:

- Ensure that the basic setup for Policy Agent is done. For information about policy-based networking and data protection, see [z/OS Communications Server: IP Configuration Reference](#).
- Enablement of AT-TLS and encrypted communication between your Tivoli Management Services on z/OS components requires a certificate and key ring. For more information, see [“Create digital certificates and key ring using RACF”](#) on page 585.

#### Related information:

- [z/OS Communications Server: IP Configuration Guide: Application Transparent Transport Layer Security data protection](#)
- [z/OS Communications Server: IP Configuration Guide: AT-TLS policy configuration](#)
- [z/OS Communications Server: IP Configuration Guide: Getting started with AT-TLS](#)
- [z/OS Communications Server: IP Configuration Reference: AT-TLS policy statements](#)
- [z/OS Communications Server: IP Configuration Reference: TTLSRule statement](#)

#### About this task

Review the following requirements for defining AT-TLS rules for secure communication between your Tivoli Management Services on z/OS components:

- You must define a rule (and corresponding environment action statements) for both the server and the client. In an OMEGAMON environment, all Tivoli Management Services on z/OS components can act as both the server and the client, depending on the nature of request. The following rules are required:
  - For server: Rule for inbound connection with `HandshakeRole` as `Server`
  - For client: Rule for outbound connection with `HandshakeRole` as `Client`

**Important:** Because all Tivoli Management Services on z/OS components can send data, all components can be both server and client.

- Rules must include the **Jobname** parameter set to the mask for the OMEGAMON started tasks; the mask is OMEG\* in the example later in this topic. If needed, you can narrow the scope of a rule by including additional criteria, such as rule parameters that specify IP address or port range. For details about available rule parameters, see [TTLSRule statement](#).

**Note:** Limiting your rule by port or port range requires the use of the [POOL](#) and [EPHEMERAL:Y](#) modifiers when configuring the ports in your runtime environment.

**Important:** Depending on the components installed at your site, new rules created for Tivoli Management Services on z/OS components might overlap with your existing rules. If you encounter overlapping rules, you can create one or more additional rules that are more specific to bypass the conflict. It is recommended that you code the specific rules preceding the general rules so that the specific rules have higher priority and are applied before the general rules. It is possible that you might need to modify your runtime environment (for example, changing [port number assignments](#)) to satisfy the implementation of new AT-TLS rules.

- Both inbound and outbound rules should have the **ApplicationControlled** parameter enabled.

**Tip:** This setting allows you to use secure protocols (for example, IP.SPIPE and HTTPS) at the same time as protocols that are not secure (for example, IP.PIPE and HTTP) in the same environment. This configuration is helpful during migration to a secure protocol.

The following AT-TLS policy properties are set in this task, as follows:

**TTLRule: Jobname**

(Required) Specifies the mask for the OMEGAMON started tasks. This value is OMEG\* in the example, which is the started task prefix set in Configuration Manager.

**TTLRule: Direction**

(Required) Specifies the direction from which a connection must be initiated for this action to be performed.

- Inbound means that the rule applies to connection requests that arrive inbound to the local host. An application must issue an accept request to service this connection.
- Outbound means that the rule applies to connection requests that are issued from the local host. An application must issue a connect request to initiate a connection.

**TTLRule: Priority**

Specifies the optional priority setting. Priority setting is required when more than one rule can match a specific connection. In this example, the priority for the server rule is 10 and the priority for the client rule is 20; the client rule has the higher priority.

**TTLSEnvironmentAction: HandshakeRole**

Specifies the SSL handshake role to be taken for connections in this AT-TLS environment. Valid values are:

**Client**

Perform the SSL handshake as a client.

**Server**

Perform the SSL handshake as a server.

**ServerWithClientAuth**

Perform the SSL handshake as a server requiring client authentication. With this setting, you can indicate the type of client certificate validation to be performed using the **TTLSEnvironmentAdvancedParms: ClientAuthType** parameter.

**TTLSEnvironmentAdvancedParms: Keyring**

Specifies the key ring name, which is ITMkeyring in the example.

**TTLSEnvironmentAdvancedParms: ApplicationControlled**

Enablement of this setting allows you to use secure protocols (like IP.SPIPE and HTTPS) at the same time as protocols that are not secure (like IP.PIPE and HTTP) in the same environment.

**Note:** This configuration is helpful during migration to a secure protocol.

**TTLSEnvironmentAdvancedParms: ClientAuthType**

Specifies the type of client certificate validation to be performed for connections in this AT-TLS environment. Client certificates are requested only if **HandshakeRole** is set to **ServerWithClientAuth**. Valid values are:

**PassThru**

Bypasses client certificate validation.

**Full**

Performs client certificate validation if the client presents a certificate.

**Required**

Requires the client to present a certificate and performs client certificate validation. This is the default.

## SAFCheck

Requires the client to present a certificate, performs client certificate validation and requires the client certificate to have an associated user ID defined to the security product.

## TTLSCipherParms

Defines the cipher specifications. Make sure to review the list of cipher suites to match up-to-date security recommendations.

**Requirement:** AES-GCM ciphers require the Integrated Cryptographic Services Facility (ICSF) to be active. The user ID running the AT-TLS application must have READ access to the following resources in the RACF CSFSERV class:

CSF1TRC  
CSF1SKD  
CSF1SKE  
CSF1TRD

For more information, see *z/OS Communications Server: IP Configuration Reference: [TTLSCipherParms statement](#)* and *z/OS Cryptographic Services System SSL Programming: [RACF CSFSERV resource requirements](#)*.

Use the following procedure to define your AT-TLS rules to establish secure communications between the Tivoli Management Services on z/OS components.

**Note:** The examples are intended as a guide; you can organize your AT-TLS rules differently, depending on the requirements of your site.

## Procedure

Add statements to the AT-TLS policy file, as shown in the following policy examples. All rules, actions, parameters, and attributes described in this step are required.

1. Define the rule and corresponding environment action statements for the server.  
*Figure 89: Sample AT-TLS rule and environment action for the server*

```
TTLRule                                KDEBEIN
{
  Jobname                               OMEG*
  Direction                              Inbound
  Priority                                10
  TTLGroupActionRef                      KDEBGRPACT
  TTLEnvironmentActionRef                 KDEBEENVIN
}

TTLEnvironmentAction                   KDEBEENVIN
{
  HandshakeRole                           Server
  TLSKeyringParms
  {
    Keyring                               ITMkeyring
  }
  TTLSCipherParmsRef                      KDEBECPRM
  TTLEnvironmentAdvancedParmsRef         KDEBEADV
}
```

**Tip:** For `TTLEnvironmentAction:HandshakeRole`, you can specify `ServerWithClientAuth`, which indicates that client authentication is required.

2. Define the rule and corresponding environment action statements for the client.  
*Figure 90: Sample AT-TLS rule and environment action for client systems*

```

TTLRule                                KDEBEOU
{
  Jobname                               OMEG*
  Direction                             Outbound
  Priority                               20
  TTLGroupActionRef                     KDEBGRPACT
  TTLEnvironmentActionRef               KDEBEENVOUT
}
TTLEnvironmentAction                   KDEBEENVOUT
{
  HandshakeRole                         Client
  TLSKeyringParms
  {
    Keyring                              ITMkeyring
  }
  TTLS cipherParmsRef                   KDEBECPRM
  TTLEnvironmentAdvancedParmsRef       KDEBEADV
}

```

3. Create the group action statement.

Figure 91: Sample AT-TLS group action

```

TTLGroupAction                          KDEBGRPACT
{
  TTLEnabled                            On
  TRACE                                  2
}

```

4. Create the environment action advanced parameters.

Figure 92: Sample AT-TLS environment action advanced parameters

```

TTLEnvironmentAdvancedParms             KDEBEADV
{
  ApplicationControlled                  On
  TLSv1                                  Off
  TLSv1.1                                Off
  TLSv1.2                                On
  TLSv1.3                                On
}

```

**Tip:** If you set **TTLEnvironmentAction:HandshakeRole** to **ServerWithClientAuth**, you can specify **TTLEnvironmentAdvancedParms:ClientAuthType** to indicate the type of client certificate validation to be performed.

5. Create the list of cipher suites.

Figure 93: Sample AT-TLS environment cipher specifications

```

TTLS cipherParms                        KDEBECPRM
{
  V3CipherSuites TLS_AES_128_GCM_SHA256
  V3CipherSuites TLS_AES_256_GCM_SHA384
  V3CipherSuites TLS_CHACHA20_POLY1305_SHA256
  V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256
  V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384
  V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA
  V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA
  V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256
  V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384
  V3CipherSuites TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
  V3CipherSuites TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384
  V3CipherSuites TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA
  V3CipherSuites TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA
  V3CipherSuites TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256
  V3CipherSuites TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384
  V3CipherSuites TLS_DHE_RSA_WITH_AES_128_GCM_SHA256
  V3CipherSuites TLS_DHE_RSA_WITH_AES_256_GCM_SHA384
  V3CipherSuites TLS_DHE_RSA_WITH_AES_128_CBC_SHA
}

```

```
V3CipherSuites TLS_DHE_RSA_WITH_AES_256_CBC_SHA
V3CipherSuites TLS_DHE_RSA_WITH_AES_128_CBC_SHA256
V3CipherSuites TLS_DHE_RSA_WITH_AES_256_CBC_SHA256
}
```

- Refresh the Policy Agent to have your changes take effect. You can refresh the Policy Agent by issuing the **MODIFY PAGENT, REFRESH** command from the console.

## Setting the Hypertext Transfer Protocol for OMEGAMON products

The following topics describe how to configure your runtime environment to use HTTPS or HTTP, or to disable both.

### Update runtime environment to use HTTPS

Update your runtime environment to use HTTPS or to use an HTTPS port other than the default.

#### Before you begin

**Important:** With APAR OA64188, HTTPS is the default communication protocol for new runtime environments. For existing runtime environments, if you do not make the necessary manual configuration updates after applying the APAR, HTTPS will be the default protocol using the default HTTPS port number 3661. You must make the updates before running the Configuration Manager **GENERATE** action or the PARMGEN \$PARSE job.

Complete the following steps:

- [“Create digital certificates and key ring using RACF” on page 585](#)
- [“Define AT-TLS policy rules” on page 586](#)

#### About this task

Perform this task to specify HTTPS as the communication protocol to use between the Tivoli Enterprise Monitoring Server (TEMS) and other components, such as the SOAP server, the IBM Tivoli Monitoring Service Console, the **tacmd** CLI, and TEMS REST services.

You will use the following parameters when configuring your runtime environment to use HTTPS:

#### For the TEMS:

```
RTE_TEMS_TRANSPORT_MODE
KDS_TEMS_HTTPS_PORT_NUM
```

#### For the agents (if applicable):

```
Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS
```

#### Procedure

- Add (or update) the parameters, as follows:

- Using Configuration Manager:

#### For the TEMS:

Add the following parameter to RTEDEF(*rte\_name*):

```
RTE_TEMS_TRANSPORT_MODE    "HTTPS"
```

Add the following parameter to RTEDEF(KDS\$PARM), RTEDEF(KDS\$lpar), or both:

```
KDS_TEMS_HTTPS_PORT_NUM    https_port_num
```

**Note:** If the `RTE_TEMS_TRANSPORT_MODE` and `KDS_TEMS_HTTPS_PORT_NUM` parameters are not specified, and your runtime environment is refreshed, the default values will be used (that is, the HTTPS protocol and HTTPS port number 3661).

**For the agents (if you want your agents to use HTTPS):**

Add the following parameter to `RTEDEF(Kpp$PARM)`, and specify a value that is different from the port number that is used for the TEMS:

```
Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS    "HTTPS:https_port_num USE:Y"
```

- Using PARMGEN:

**For the TEMS:**

Add the following parameters to `WCONFIG(rte_name)`:

```
RTE_TEMS_TRANSPORT_MODE    "HTTPS"  
KDS_TEMS_HTTPS_PORT_NUM    https_port_num
```

**Note:** If the `RTE_TEMS_TRANSPORT_MODE` and `KDS_TEMS_HTTPS_PORT_NUM` parameters are not specified, and your runtime environment is refreshed, the default values will be used (that is, the HTTPS protocol and HTTPS port number 3661).

**For the agents (if you want your agents to use HTTPS):**

Add the following parameter to `WCONFIG(rte_name)`, and specify a value that is different from the port number that is used for the TEMS:

```
Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS    "HTTPS:https_port_num USE:Y"
```

2. Refresh your runtime environment, as follows:
  - Using Configuration Manager: Use the **GENERATE** action to re-create the runtime environment. Optionally, you can use the **GENERATE** action with the **QUICKCONFIG** or **NOUSS** options.
  - Using PARMGEN: Recreate the runtime environment as described in “[Scenario RTE03: Changing parameters in an RTE](#)” on page 844.
3. Start your OMEGAMON started tasks. You should see the following messages in the log:

**For the TEMS:**

```
KDE_TRANSPORT=KDC_FAMILIES="HTTP:0 HTTPS:https_port_num USE:Y <...> "  
listening: ip.ssl.https:26089  
listening: ip.ssl.https:3661
```

**For the agent:**

- With parameter `Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS` specified:

```
KDE_TRANSPORT=KDC_FAMILIES="HTTP:0 USE:Y  
HTTPS:agent_https_port_num USE:Y <...> "  
listening: ip.ssl.https:26055
```

- Without parameter `Kpp_X_KDE_TRANSPORT_HTTP_OPTIONS` specified:

```
KDE_TRANSPORT=KDC_FAMILIES="HTTP:0 USE:Y <...> "
```

4. Test your HTTPS connection using the following methods:
  - If you have `tacmd` configured, issue the following `tacmd` command using your TEMS IP or DNS and the HTTPS port number. For example:

```
C:\Users\userID>tacmd login -s ip:https_port_num
Username? tso_user_id
Password?

Validating user...
KUIIC00007I: User tso_user_id logged into server on https://ip:https_port_num
```

**Note:** To test your connection using **tacmd**, secure communications must be enabled on the Tivoli Monitoring distributed system where the **tacmd** CLI component is installed. For more information, see [Securing communications](#).

- Access the Service Console using `https://ip:https_port_num`. If the connection is successful, then the Service Console items will be displayed.
- Attempt to access the Service Console using `http://`. This attempt should fail.

## Update runtime environment to use HTTP

Update your runtime environment to use HTTP or to use an HTTP port other than the default.

### Before you begin

**Important:**

With APAR OA64188, HTTPS is the default communication protocol for new runtime environments. For existing runtime environments, if you do not make the necessary manual configuration updates after applying the APAR, HTTPS will be the default protocol using the default HTTPS port number 3661.

To use HTTP, you must have parameter **RTE\_TEMS\_TRANSPORT\_MODE** set to value HTTP in either `RTEDEF(rte_name)` for Configuration Manager or `WCONFIG(rte_name)` for PARMGEN before running the Configuration Manager **GENERATE** action or the PARMGEN \$PARSE job, respectively, as described in this procedure.

### About this task

Perform this task to specify HTTPs as the communication protocol to use between the Tivoli Enterprise Monitoring Server (TEMS) and other components, such as the SOAP server, the IBM Tivoli Monitoring Service Console, the **tacmd** CLI, and TEMS REST services.

To use the HTTP protocol, you must add the **RTE\_TEMS\_TRANSPORT\_MODE** parameter with HTTP value as described by this procedure. Otherwise, HTTPS will be the protocol by default, which could impact your environment if AT-TLS is not fully set up.

You will use the following parameters when configuring your runtime environment to use HTTP:

**For the TEMS:**

[RTE\\_TEMS\\_TRANSPORT\\_MODE](#)  
["KDS\\_TEMS\\_HTTP\\_PORT\\_NUM"](#) on page 1402

### Procedure

1. Add (or update) the parameters, as follows:

- Using Configuration Manager:

**For the TEMS:**

Add the following parameter to `RTEDEF(rte_name)`:

```
RTE_TEMS_TRANSPORT_MODE    "HTTP"
```

Add the following parameter to `RTEDEF(KDS$PARM)`, `RTEDEF(KDS$lpar)`, or both:

```
KDS_TEMS_HTTP_PORT_NUM    http_port_num
```

- Using PARMGEN:

**For the TEMS:**

Add the following parameters to WCONFIG(*rte\_name*):

```
RTE_TEMS_TRANSPORT_MODE    "HTTP"
KDS_TEMS_HTTP_PORT_NUM     http_port_num
```

- Refresh your runtime environment, as follows:

- Using Configuration Manager: Use the **GENERATE** action to re-create the runtime environment. Optionally, you can use the **GENERATE** action with the **QUICKCONFIG** or **NOUSS** options.
- Using PARMGEN: Recreate the runtime environment as described in “Scenario RTE03: Changing parameters in an RTE” on page 844.

- Start your OMEGAMON started tasks. You should see the following messages in the log:

**For the TEMS:**

```
KDE_TRANSPORT=KDC_FAMILIES="HTTP:http_port_num USE:Y <...> "
listening: ip.tcp.http:35646
listening: ip.tcp.http:1920
```

- Test your HTTP connection using the following methods:

- If you have **tacmd** configured, issue **tacmd** commands using your TEMS IP or DNS and the HTTP port number. For example:

```
C:\Users\userID>tacmd login -s ip:http_port_num
Username? tso_user_id
Password?

Validating user...
KUIIC00007I: User tso_user_id logged into server on http://ip:http_port_num
KUIIC00008W: The connection you are using is not secure.
```

- Access the Service Console using `http://ip:http_port_num`. If the connection is successful, then the Service Console items will be displayed.
- Attempt to access the Service Console using `https://`. This attempt should fail.

## Update runtime environment to disable HTTP and HTTPS

Update your runtime environment to disable HTTP and HTTPS.

### Before you begin

**Important:** With APAR OA64188, HTTPS is the default communication protocol for new runtime environments. For existing runtime environments, if you do not make the necessary manual configuration updates after applying the APAR, HTTPS will be the default protocol using the default HTTPS port number 3661. You must make the updates before running the Configuration Manager **GENERATE** action or the PARMGEN \$PARSE job.

### About this task

If you do not want to communicate between the Tivoli Enterprise Monitoring Server (TEMS) and the IBM Tivoli Monitoring Service Console, **tacmd**, SOAP, or TEMS REST services, you can disable HTTP and HTTPS protocols by performing the following procedure. With these steps, you will disable the HTTP and HTTPS protocols for both the TEMS and the agents.

You will use the following parameter when disabling HTTP and HTTPS for your runtime environment:

**For the TEMS:**

RTE\_TEMS\_TRANSPORT\_MODE

### Procedure

1. Add (or update) the following parameter in RTEDEF (*rte\_name*) for Configuration Manager or WCONFIG(*rte\_name*) for PARMGEN:

**For the TEMS:**

```
RTE_TEMS_TRANSPORT_MODE    "NONE"
```

2. Refresh your runtime environment, as follows:
  - Using Configuration Manager: Use the **GENERATE** action to re-create the runtime environment. Optionally, you can use the **GENERATE** action with the **QUICKCONFIG** or **NOUSS** options.
  - Using PARMGEN: Recreate the runtime environment as described in “[Scenario RTE03: Changing parameters in an RTE](#)” on page 844.
3. Start your OMEGAMON started tasks. You should see the following message in the log:

```
KDE_TRANSPORT=KDC_FAMILIES="HTTP:0 HTTPS:0 USE:Y <...> "
```

You should not see any `listening:` messages for HTTP or HTTPS in the log.

4. Test your configuration using the following methods:
  - If you have **tacmd** configured, issue **tacmd** commands using your TEMS IP or DNS and the HTTP or HTTPS port number. For example:

```
C:\Users\userID>tacmd login -s ip:http_port_num
Username? tso_user_id
Password?

Validating user...

KUIIC00003E: Cannot connect to a hub monitoring server at addresses:
https://ip:http_port_num , http://ip:http_port_num
```

- Attempt to access the Service Console using `ip:http_port_num` or `dns:http_port_num`. These attempts should fail.

## Setting a secure Transmission Control Protocol (TCP) for OMEGAMON products

This section describes how to update your runtime environment to use a secure TCP protocol (IP.SPIPE, IP6.SPIPE).

When modifying your runtime environment, you can use Configuration Manager or PARMGEN, as described in the following topics.

### Update runtime environment to use secure TCP communication (Configuration Manager)

Use Configuration Manager to update your runtime environment to use secure TCP communication.

#### Before you begin

If you are using a TCP protocol that is non-secure (IP.PIPE, IP6.PIPE) and want to update your runtime environment to use a secure TCP protocol (IP.SPIPE, IP6.SPIPE), you must modify settings for the runtime environment by using Configuration Manager or PARMGEN. This task describes the process using Configuration Manager.

**Note:** If you use PARMGEN, see “[Update runtime environment to use secure TCP communication \(PARMGEN\)](#)” on page 598.

For more information about configuring secure communication using Configuration Manager, review the following related topics:

- *IBM Z Monitoring Configuration Manager: “Communication between monitoring components” on page 330*
- *IBM Z Monitoring Configuration Manager: “Runtime environment (RTE) parameters introduced by Configuration Manager” on page 294*

Before you begin this task, complete the following steps:

- *“Create digital certificates and key ring using RACF” on page 585*
- *“Define AT-TLS policy rules” on page 586*

## About this task

To change the TCP protocol that your runtime environment uses, you must modify the communication protocol setting for both the Tivoli Enterprise Monitoring Server and the monitoring agents. Optionally, you can also modify the ports that are used, if you want to use a port other than the default secure communications port, 3660.

You will use the following parameters when updating your runtime environment to use a secure TCP communication using Configuration Manager:

Component	Parameter	Description
Tivoli Enterprise Monitoring Server Monitoring agents	<u>RTE_COMM_PROTOCOLn</u>	Sets the communication protocol of all components in the runtime environment, where <i>n</i> corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols. The <b>RTE_COMM_PROTOCOLn</b> ( <i>n</i> : 1 - 7) parameters set the value of the <b>KDS_TEMS_COMM_PROTOCOLn</b> and <b>Kpp_AGT_COMM_PROTOCOLn</b> parameters.
	<u>RTE_TCP_PIPES_PORT_NUM</u>	Sets the port number for all components in the runtime environment that use the secure TCP over IPv4 communication protocol (IP.SPIPE). The <b>RTE_TCP_PIPES_PORT_NUM</b> parameter sets the value of the <b>KDS_TEMS_TCP_PIPES_PORT_NUM</b> and <b>Kpp_TEMS_TCP_PIPES_PORT_NUM</b> parameters. This parameter is used only if one of the parameters that sets communication protocol choices, <b>*_COMM_PROTOCOLn</b> , specifies the value for this protocol, IPSPIPE.
	<u>RTE_TCP_PIPE6S_PORT_NUM</u>	Sets the port number for all components in the runtime environment that use the secure TCP over IPv6 communication protocol (IP6.SPIPE). The <b>RTE_TCP_PIPE6S_PORT_NUM</b> parameter sets the value of the <b>KDS_TEMS_TCP_PIPE6S_PORT_NUM</b> and <b>Kpp_TEMS_TCP_PIPE6S_PORT_NUM</b> parameters. This parameter is used only if one of the parameters that sets communication protocol choices, <b>*_COMM_PROTOCOLn</b> , specifies the value for this protocol, IPS6PIPE.
Remote monitoring server	<u>KDS_HUB_TCP_PIPES_PORT_NUM</u>	Well-known port for the hub monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPV4), specified during configuration of a remote monitoring server. The default port number is 3660.

Component	Parameter	Description
	<code>KDS_HUB_TCP_PIPE6S_PORT_NUM</code>	Well-known port for the hub monitoring server for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPV6), specified during configuration of a remote monitoring server. The default port number is 3660.

**Note:** You can set up your runtime environment to use both IP.SPIPE and IP.PIPE concurrently. This configuration might be useful when transitioning from a non-secure protocol to a secure protocol. For a secure environment, it is recommended that you disable the non-secure protocol after transitioning to the secure protocol as soon as possible.

**Note:** If multiple protocols are specified, you must have a corresponding port assigned for each specified protocol.

The following procedure describes how to specify the use of secure TCP communication (IPSPIPE, IP6SPIPE) for your runtime environment using Configuration Manager.

## Procedure

1. Update the settings for the monitoring server and monitoring agents to use secure TCP communication:
  - a. In member RTEDEF (*rte\_name*), make the following updates:

- Assign a secure communication protocol (IPSPIPE, IP6SPIPE) as the first priority protocol. The following example sets the first priority protocol to use secure TCP over IPv4:

```
RTE_COMM_PROTOCOL1          IPSPIPE * Secure TCP over IPv4
```

**Note:** If you use IPv6, set the protocol value to IP6SPIPE.

- If you want to use a secure communication port other than default port 3660, assign the port number by using the corresponding parameter for the specified protocol (IPv4 or IPv6):

```
RTE_TCP_PIPES_PORT_NUM      3660 * Secure IP.PIPE for IPv4
```

```
RTE_TCP_PIPE6S_PORT_NUM     3660 * Secure IP.PIPE for IPv6
```

- b. If this monitoring server is a remote monitoring server, in member RTEDEF (KDS\$*PARM*) or RTEDEF (KDS\$*lpar*), specify the port number of the hub monitoring server by using the corresponding parameter for the specified protocol (IPv4 or IPv6):

```
KDS_HUB_TCP_PIPES_PORT_NUM  3660 * Secure IP.PIPE for IPv4
```

```
KDS_HUB_TCP_PIPE6S_PORT_NUM 3660 * Secure IP.PIPE for IPv6
```

2. Run the **GENERATE** action.
3. Recycle the started tasks for the monitoring server and the monitoring agents.

## Example

The following example shows the parameters required for a configuration that specifies multiple protocols. If you are transitioning to a secure protocol from a non-secure protocol, you might use this configuration to add the secure protocol before disabling the non-secure protocol. After all components are communicating

securely, you can then disable the non-secure protocol. Note that each specified protocol requires a corresponding port number.

**For the monitoring server and monitoring agents:**

- In member RTEDEF (*rte\_name*):
  - Use the **RTE\_COMM\_PROTOCOLn** parameters to specify the protocols in priority order:

RTE_COMM_PROTOCOL1	IPPIPE	* First choice: secure TCP over IPv4
RTE_COMM_PROTOCOL2	IPPIPE	* Second choice: non-secure TCP over IPv4

- Use the **RTE\_TCP\_\*\_PORT\_NUM** parameters to specify corresponding ports, if you want to use values other than the default values:

RTE_TCP_PIPE_PORT_NUM	1918	* IP.PIPE for IPv4
RTE_TCP_PIPES_PORT_NUM	3660	* Secure IP.PIPE for IPv4

- If the monitoring server is a remote monitoring server, in member RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar), use the **KDS\_HUB\_TCP\_\*\_PORT\_NUM** parameters to specify the ports to use:

KDS_HUB_TCP_PIPE_PORT_NUM	1918	* IP.PIPE for IPv4
KDS_HUB_TCP_PIPES_PORT_NUM	3660	* Secure IP.PIPE for IPv4

## Update runtime environment to use secure TCP communication (PARMGEN)

Use PARMGEN to update your runtime environment to use secure TCP communication.

### Before you begin

If you are using a TCP protocol that is non-secure (IP.PIPE, IP6.PIPE) and want to update your runtime environment to use a secure TCP protocol (IP.SPIPE, IP6.SPIPE), you must modify settings for the runtime environment by using Configuration Manager or PARMGEN. This task describes the process using PARMGEN.

**Note:** If you use Configuration Manager, see [“Update runtime environment to use secure TCP communication \(Configuration Manager\)”](#) on page 595.

Before you begin this task, complete the following steps:

- [“Create digital certificates and key ring using RACF”](#) on page 585
- [“Define AT-TLS policy rules”](#) on page 586

### About this task

To change the TCP protocol that your runtime environment uses, you must modify the communication protocol setting for both the Tivoli Enterprise Monitoring Server and the monitoring agents. Optionally, you can also modify the ports that are used, if you want to use a port other than the default secure communications port, 3660.

You will use the following parameters when updating your runtime environment to use a secure TCP communication using PARMGEN:

Table 68: Parameters for setting secure TCP communication using PARMGEN		
Component	Parameter	Description
Tivoli Enterprise Monitoring Server	<u>KDS_TEMS_COMM_PROTOCOLn</u>	Communication protocol to be supported by the Tivoli Enterprise Monitoring Server, where <i>n</i> corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols.

Component	Parameter	Description
	<a href="#">“KDS_TEMS_TCP_PIPES_PORT_NUM” on page 1415</a>	Well-known port for the monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv4). The default port number is 3660.
	<a href="#">“KDS_TEMS_TCP_PIPE6S_PORT_NUM” on page 1414</a>	Well-known port for the monitoring server for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6). The default port number is 3660.
Remote monitoring server	<a href="#">KDS_HUB_TCP_PIPES_PORT_NUM</a>	Well-known port for the hub monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPV4), specified during configuration of a remote monitoring server. The default port number is 3660.
	<a href="#">KDS_HUB_TCP_PIPE6S_PORT_NUM</a>	Well-known port for the hub monitoring server for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPV6), specified during configuration of a remote monitoring server. The default port number is 3660.
Monitoring agents	<a href="#">“Kpp_AGT_COMM_PROTOCOLn” on page 1264</a>	Communication protocol to be supported by the monitoring agent, where <i>n</i> corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols.
	<a href="#">“Kpp_TEMS_TCP_PIPES_PORT_NUM” on page 1295</a>	Port number for agent connection to the monitoring server for the IP.SPIPE communication protocol.
	<a href="#">“KDS_TEMS_TCP_PIPE6S_PORT_NUM” on page 1414</a>	Port number for agent connection to the monitoring server for the IP6.SPIPE communication protocol.

**Note:** You can set up your runtime environment to use both IP.SPIPE and IP.PIPE concurrently. This configuration might be useful when transitioning from a non-secure protocol to a secure protocol. For a secure environment, it is recommended that you disable the non-secure protocol after transitioning to the secure protocol as soon as possible.

**Note:** If multiple protocols are specified, you must have a corresponding port assigned for each specified protocol.

The following procedure describes how to specify the use of secure TCP communication (IPSPIPE, IP6SPIPE) for your runtime environment using PARMGEN.

## Procedure

1. Update the settings for the monitoring server to use secure TCP communication. In member `WCONFIG(rte_name)`, make the following updates:
  - a. Assign a secure communication protocol (IPSPIPE, IP6SPIPE) as the first priority protocol. The following example sets the first priority protocol to use secure TCP over IPv4:

```
KDS_TEMS_COMM_PROTOCOL1      IPSPIPE * Secure TCP over IPv4
```

**Note:** If you use IPv6, set the protocol value to IP6SPIPE.

- b. If you want to use a secure communication port other than default port 3660, assign the port number by using the corresponding parameter for the specified protocol (IPv4 or IPv6):

```
KDS_TEMS_TCP_PIPES_PORT_NUM 3660 * Secure IP.PIPE for IPv4
```

```
KDS_TEMS_TCP_PIPE6S_PORT_NUM 3660 * Secure IP.PIPE for IPv6
```

- c. If this monitoring server is a remote monitoring server, specify the port number of the hub monitoring server by using the corresponding parameter for the specified protocol (IPv4 or IPv6):

```
KDS_HUB_TCP_PIPES_PORT_NUM 3660 * Secure IP.PIPE for IPv4
```

```
KDS_HUB_TCP_PIPE6S_PORT_NUM 3660 * Secure IP.PIPE for IPv6
```

2. Update the settings for each of the monitoring agents to use secure TCP communication. In member WCONFIG(*rte\_name*), make the following updates:

- a. Assign a secure communication protocol (IPSPIPE, IP6SPIPE) as the first priority protocol. The following example sets the first priority protocol to use secure TCP over IPv4:

```
Kpp_AGT_COMM_PROTOCOL1 IPSPIPE * Secure TCP over IPv4
```

- b. If you want to use a secure communication port other than default port 3660, assign the port number by using the corresponding parameter for the specified protocol (IPv4 or IPv6):

```
Kpp_TEMS_TCP_PIPES_PORT_NUM 3660 * Secure IP.PIPE for IPv4
```

```
Kpp_TEMS_TCP_PIPE6S_PORT_NUM 3660 * Secure IP.PIPE for IPv6
```

3. Submit the **\$PARSE** job to refresh the profile.
4. Recycle the started tasks for the monitoring server and the monitoring agents.

## Example

The following example shows the parameters required for a configuration that specifies multiple protocols. If you are transitioning to a secure protocol from a non-secure protocol, you might use this configuration to add the secure protocol before disabling the non-secure protocol. After all components are communicating securely, you can then disable the non-secure protocol. Note that each specified protocol requires a corresponding port number.

### For the monitoring server:

In member WCONFIG(*rte\_name*):

- Use the **KDS\_TEMS\_COMM\_PROTOCOLn** parameters to specify the protocols in priority order:

```
KDS_TEMS_COMM_PROTOCOL1 IPSPIPE * First choice: secure TCP over IPv4
KDS_TEMS_COMM_PROTOCOL2 IPPIPE * Second choice: non-secure TCP over IPv4
```

- Use the **KDS\_TEMS\_TCP\_\*\_PORT\_NUM** parameters to specify corresponding ports, if you want to use values other than the default values:

```
KDS_TEMS_TCP_PIPE_PORT_NUM 1918 * IP.PIPE for IPv4
KDS_TEMS_TCP_PIPES_PORT_NUM 3660 * Secure IP.PIPE for IPv4
```

- If the monitoring server is a remote monitoring server, use the **KDS\_HUB\_TCP\_\*\_PORT\_NUM** parameters to specify the ports to use:

```
KDS_HUB_TCP_PIPE_PORT_NUM 1918 * IP.PIPE for IPv4
KDS_HUB_TCP_PIPES_PORT_NUM 3660 * Secure IP.PIPE for IPv4
```

### For the monitoring agents:

In member `WCONFIG(rte_name)`:

- Use the `Kpp_AGT_COMM_PROTOCOLn` parameters to specify the protocols in priority order:

<code>Kpp_AGT_COMM_PROTOCOL1</code>	<code>IPPIPE</code>	* First choice: secure TCP over IPv4
<code>Kpp_AGT_COMM_PROTOCOL2</code>	<code>IPPIPE</code>	* Second choice: non-secure TCP over IPv4

- Use the `Kpp_TEMS_TCP_*_PORT_NUM` parameters to specify corresponding ports, if you want to use values other than the default values

<code>Kpp_TEMS_TCP_PIPE_PORT_NUM</code>	1918	* IP.PIPE for IPv4
<code>Kpp_TEMS_TCP_PIPES_PORT_NUM</code>	3660	* Secure IP.PIPE for IPv4

**Tip:** Configuration Manager simplifies the process of configuring communication protocols and ports by offering an easy way to set all components to the same values, rather than setting parameters individually for each component. If you are a PARMGEN user, consider moving to Configuration Manager.

## Setting the Internet Protocol (IPv4, IPv6) for OMEGAMON products

This section describes how to update the Internet Protocol in your runtime environment.

If you are using IPv4, you might want to move to IPv6 for its enhanced security.

When modifying your runtime environment, you can use Configuration Manager or PARMGEN, as described in the following topics.

### Update Internet Protocol in runtime environment (Configuration Manager)

Update the Internet Protocol (IPv4, IPv6) that is used for communication in your runtime environment using Configuration Manager.

#### Before you begin

To update the communication used between the components in an OMEGAMON runtime environment, you must define the communication protocol and ports for each component. You might also have to update the host setting and the list of network interfaces. This topic describes how to modify the settings for the Internet Protocol that is used, focusing on the migration from IPv4 to IPv6.

Before you can update your OMEGAMON runtime environment from IPv4 to IPv6, your mainframe environment must be enabled for IPv6. You must have the name of the IPv6-enabled z/OS host and IP address available. Your site might reconfigure an existing host from IPv4 to IPv6, or it might add a new host with a different host name.

If you are using distributed components, your distributed environment must also be configured to communicate using IPv6. IPv6 communication over IPv4-only networks is not supported.

**Note:** If a component needs to communicate using IPv6 with some components and IPv4 with others, the host must be enabled for dual-stack operation. For more information, see *IBM Tivoli Monitoring Installation and Setup Guide: Choose between IPv6 and IPv4*.

**Note:** IPv6 is not supported for sending EIF events from the hub monitoring server or from monitoring agents.

To update your configuration, you must modify the settings for the runtime environment using Configuration Manager or PARMGEN. This task describes this process using Configuration Manager.

**Note:** If you use PARMGEN, see [“Update Internet Protocol in runtime environment \(PARMGEN\)” on page 604.](#)

**Related links:**

- [IBM Tivoli Monitoring 6.3.0.1 Installation Guide: Configuring IBM Tivoli Monitoring components for IPv6 communication](#)
- [Configuration Manager: “Communication between monitoring components” on page 330](#)
- [OMEGAMON shared documentation: “Decision 6: How to set up communications between components” on page 147](#)
- [OMEGAMON shared documentation: “Managing multiple network interfaces” on page 609](#)

**About this task**

The communication protocol and ports for any monitoring server and all monitoring agents must be the same for communication to be successful.

If you are updating the communication protocol for the runtime environment or plan to use a port number that is different from the default port for the protocol, you must update the values for all communication protocols and ports specified within the profile. You might also have to update the host and the list of network interfaces.

To change the communication protocol that your runtime environment uses, you modify the communication protocol setting for any monitoring servers and the monitoring agents. You might also have to update the name of the host, if it is different; and you can also modify the ports that are used, if you want to use a port other than the default port for the protocol.

You will use the following parameters when updating the Internet Protocol for your runtime environment:

<i>Table 69: Parameters for setting IP protocol using Configuration Manager</i>		
<b>Component</b>	<b>Parameter</b>	<b>Description</b>
Tivoli Enterprise Monitoring Server Monitoring agents	<a href="#">“RTE_TCP_HOST” on page 288</a>	Specifies the TCP/IP host name or IP address of the z/OS system where the runtime environment is defined. If you configure a monitoring server as part of your runtime environment, the <b>RTE_TCP_HOST</b> parameter value sets the value of the <b>KDS_TEMS_TCP_HOST</b> parameter. Depending on other settings in the runtime environment, the <b>RTE_TCP_HOST</b> parameter might also set the value for the <b>Kpp_TEMS_TCP_HOST</b> parameters.
	<a href="#">RTE_COMM_PROTOCOLn</a>	Sets the communication protocol of all components in the runtime environment, where <i>n</i> corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols. The <b>RTE_COMM_PROTOCOLn</b> (n: 1 - 7) parameters set the value of the <b>KDS_TEMS_COMM_PROTOCOLn</b> and <b>Kpp_AGT_COMM_PROTOCOLn</b> parameters.
	IPv4 ports: <ul style="list-style-type: none"> <li>• <a href="#">“RTE_TCP_PORT_NUM” on page 289</a></li> <li>• <a href="#">RTE_TCP_PIPES_PORT_NUM</a></li> <li>• <a href="#">“RTE_TCP_UDP_PORT_NUM” on page 297</a></li> </ul>	Ports for all components in the runtime environment that communicate over IPv4.

Component	Parameter	Description
	IPv6 ports: <ul style="list-style-type: none"> <li>• <a href="#">“RTE_TCP_PIPE6_PORT_NUM” on page 296</a></li> <li>• <a href="#">RTE_TCP_PIPE6S_PORT_NUM</a></li> <li>• <a href="#">“RTE_TCP_UDP6_PORT_NUM” on page 298</a></li> </ul>	Ports for all components in the runtime environment that communicate over IPv6.
Remote monitoring server	<a href="#">“KDS_HUB_TCP_HOST” on page 1374</a>	Specifies the TCP/IP host name or IP address of the z/OS® system where the hub monitoring server is installed. This parameter applies only to a remote monitoring server that uses TCP/IP for communications.
	IPv4 ports: <ul style="list-style-type: none"> <li>• <a href="#">“KDS_HUB_TCP_PIPE_PORT_NUM” on page 1374</a></li> <li>• <a href="#">“KDS_HUB_TCP_PIPES_PORT_NUM” on page 1375</a></li> <li>• <a href="#">“KDS_HUB_TCP_UDP_PORT_NUM” on page 1376</a></li> </ul>	Well-known ports for the hub monitoring server over IPv4, specified during configuration of a remote monitoring server.
	IPv6 ports: <ul style="list-style-type: none"> <li>• <a href="#">“KDS_HUB_TCP_PIPE6_PORT_NUM” on page 1374</a></li> <li>• <a href="#">“KDS_HUB_TCP_PIPE6S_PORT_NUM” on page 1375</a></li> <li>• <a href="#">“KDS_HUB_TCP_UDP6_PORT_NUM” on page 1376</a></li> </ul>	Well-known ports for the hub monitoring server over IPv6, specified during configuration of a remote monitoring server.
Network interface lists	IPv4 communication: <ul style="list-style-type: none"> <li>• <a href="#">RTE_TCP_KDEB_INTERFACELIST</a></li> </ul>	Directs all components in the runtime environment to connect to a specific TCP/IP local interface for IPv4 communication.
	IPv6 communication: <ul style="list-style-type: none"> <li>• <a href="#">KDEB_INTERFACELIST_IPV6</a> (embed override parameter)</li> </ul>	Contains a list of interface addresses in the order for which these interface addresses should be discovered and used for IPv6 communication.

The following procedure describes how to change the IP protocol, such as from IPv4 to IPv6, for your runtime environment using Configuration Manager.

## Procedure

1. Update the settings for the monitoring server and monitoring agents to use to communicate, as follows:
  - a. In member RTEDEF (*rte\_name*), make the following updates:
    - Assign the communication protocol as the first priority protocol. The following example sets the first priority protocol to use the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6):

```
RTE_COMM_PROTOCOL1          IP6SPIPE * Secure TCP over IPv4
```

- Specify the port number using the corresponding parameter for the specified protocol. The following example sets the port for the IP6.SPIPE communication protocol; in this case, it is the default port number:

```
RTE_TCP_PIPE6S_PORT_NUM    3660      * Secure IP.PIPE for IPv6
```

**Important:** For all port parameters that are not related to the defined communication protocol, remove the parameter value, if defined. Otherwise, parameter validation will fail.

- Specify the host.

**Note:** If you are migrating from IPv4 to IPv6, the host must be IPv6-enabled. Your site might reconfigure the existing host to enable IPv6, or it might add a new host with a different host name or IP address.

```
RTE_TCP_HOST          "SYSA"
```

- b. If this monitoring server is a remote monitoring server, in member RTEDEF (KDS\$PARM) or RTEDEF (KDS\$*lpar*), specify the port number of the hub monitoring server by using the corresponding parameter for the specified protocol (IPv4 or IPv6):

```
KDS_HUB_TCP_PIPE6S_PORT_NUM    3660    * Secure IP.PIPE for IPv6
```

- c. Update the interface lists for the runtime environment. If you are migrating from IPv4 to IPv6, you must update the settings as follows:
- Set the interface list parameter that is used for IPv4 communication to the hyphen (-) character:

```
RTE_TCP_KDEB_INTERFACELIST    "-"
```

- Specify the list of interface addresses for IPv6 communication in the **KDEB\_INTERFACELIST\_IPV6** embed override parameters by editing embed override member EMBEDS (KDS\$PENV) for the monitoring server and EMBEDS (KAG\$PENV) for the monitoring agents. By default, this parameter is commented out; you must remove the asterisk (\*) that precedes the parameter name to enable the parameter setting.

```
KDEB_INTERFACELIST_IPV6=\  
(2002:930:9b04:305:9:48:133:98) \  
(2002:930:9b04:305:9:48:133:100)
```

For more information about configuring interface lists, see [“Managing multiple network interfaces” on page 609](#).

2. Run the **GENERATE** action.
3. Recycle the started tasks for the monitoring server and the monitoring agents.

## Update Internet Protocol in runtime environment (PARMGEN)

Update the Internet Protocol (IPv4, IPv6) that is used for communication in your runtime environment using PARMGEN.

### Before you begin

To update the communication used between the components in an OMEGAMON runtime environment, you must define the communication protocol and ports for each component. You might also have to update the host setting and the list of network interfaces. This topic describes how to modify the settings for the Internet Protocol that is used, focusing on the migration from IPv4 to IPv6.

Before you can update your OMEGAMON runtime environment from IPv4 to IPv6, your mainframe environment must be enabled for IPv6. You must have the name of the IPv6-enabled z/OS host and IP address available. Your site might reconfigure an existing host from IPv4 to IPv6, or it might add a new host with a different host name.

If you are using distributed components, your distributed environment must also be configured to communicate using IPv6. IPv6 communication over IPv4-only networks is not supported.

**Note:** If a component needs to communicate using IPv6 with some components and IPv4 with others, the host must be enabled for dual-stack operation. For more information, see *IBM Tivoli Monitoring Installation and Setup Guide: Choose between IPv6 and IPv4*.

**Note:** IPv6 is not supported for sending EIF events from the hub monitoring server or from monitoring agents.

To update your configuration, you must modify the settings for the runtime environment using Configuration Manager or PARMGEN. This task describes this process using PARMGEN.

**Note:** If you use Configuration Manager, see [“Update Internet Protocol in runtime environment \(Configuration Manager\)” on page 601](#).

**Related links:**

- [IBM Tivoli Monitoring 6.3.0.1 Installation Guide: Configuring IBM Tivoli Monitoring components for IPv6 communication](#)
- [PARMGEN: “Customizing the configuration profiles” on page 438](#)
- [PARMGEN: “Update the TCP/IP port values used across the runtime environment” on page 452](#)
- [PARMGEN: “Configure a Tivoli Enterprise Monitoring Server” on page 457](#)
- [OMEGAMON shared documentation: “Decision 6: How to set up communications between components” on page 147](#)
- [OMEGAMON shared documentation: “Managing multiple network interfaces” on page 609](#)

**About this task**

The communication protocol and ports for any monitoring server and all monitoring agents must be the same for communication to be successful.

If you are updating the communication protocol for the runtime environment or plan to use a port number that is different from the default port for the protocol, you must update the values for all communication protocols and ports specified within the profile. You might also have to update the host and the list of network interfaces.

To change the communication protocol that your runtime environment uses, you modify the communication protocol setting for any monitoring servers and the monitoring agents. You might also have to update the name of the host, if it is different; and you can also modify the ports that are used, if you want to use a port other than the default port for the protocol.

You will use the following parameters when updating the Internet Protocol for your runtime environment:

<i>Table 70: Parameters for setting IP protocol using PARMGEN</i>		
<b>Component</b>	<b>Parameter</b>	<b>Description</b>
Tivoli Enterprise Monitoring Server	<a href="#">KDS_TEMS_TCP_HOST</a>	Specifies the TCP/IP host name or IP address of the z/OS® system where the monitoring server is installed.
	<a href="#">KDS_TEMS_COMM_PROTOCOLn</a>	Communication protocol to be supported by the Tivoli Enterprise Monitoring Server, where <i>n</i> corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols.

Component	Parameter	Description
	IPv4 ports: <ul style="list-style-type: none"> <li>“KDS_TEMS_TCP_PIPE_PORT_NUM” on page 1413</li> <li>“KDS_TEMS_TCP_PIPES_PORT_NUM” on page 1415</li> <li>“KDS_TEMS_TCP_UDP_PORT_NUM” on page 1416</li> </ul>	Well-known ports for the monitoring server over IPv4.
	IPv6 ports: <ul style="list-style-type: none"> <li>“KDS_TEMS_TCP_PIPE6_PORT_NUM” on page 1414</li> <li>“KDS_TEMS_TCP_PIPE6S_PORT_NUM” on page 1414</li> <li>“KDS_TEMS_TCP_UDP6_PORT_NUM” on page 1417</li> </ul>	Well-known ports for the monitoring server over IPv6.
Remote monitoring server	“KDS_HUB_TCP_HOST” on page 1374	Specifies the TCP/IP host name or IP address of the z/OS® system where the hub monitoring server is installed. This parameter applies only to a remote monitoring server that uses TCP/IP for communications.
	IPv4 ports: <ul style="list-style-type: none"> <li>• “KDS_HUB_TCP_PIPE_PORT_NUM” on page 1374</li> <li>• “KDS_HUB_TCP_PIPES_PORT_NUM” on page 1375</li> <li>• “KDS_HUB_TCP_UDP_PORT_NUM” on page 1376</li> </ul>	Well-known ports for the hub monitoring server over IPv4, specified during configuration of a remote monitoring server.
	IPv6 ports: <ul style="list-style-type: none"> <li>• “KDS_HUB_TCP_PIPE6_PORT_NUM” on page 1374</li> <li>• “KDS_HUB_TCP_PIPE6S_PORT_NUM” on page 1375</li> <li>• “KDS_HUB_TCP_UDP6_PORT_NUM” on page 1376</li> </ul>	Well-known ports for the hub monitoring server over IPv6, specified during configuration of a remote monitoring server.
Monitoring agents	“Kpp_TEMS_TCP_HOST” on page 1293	Specifies the TCP/IP host name or IP address of the z/OS® system of the agent's primary monitoring server.
	“Kpp_AGT_COMM_PROTOCOLn” on page 1264	Communication protocol for the connection between the monitoring agent and the Tivoli Enterprise Monitoring Server, where <i>n</i> corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols.
	IPv4 ports: <ul style="list-style-type: none"> <li>• “Kpp_TEMS_TCP_PIPE_PORT_NUM” on page 1294</li> <li>• “Kpp_TEMS_TCP_PIPES_PORT_NUM” on page 1295</li> <li>• “Kpp_TEMS_TCP_UDP_PORT_NUM” on page 1296</li> </ul>	Well-known ports for the monitoring agents over IPv4.

Component	Parameter	Description
	IPv6 ports: <ul style="list-style-type: none"> <li>• <u>“Kpp_TEMS_TCP_PIPE6_PORT_NUM” on page 1295</u></li> <li>• <u>“Kpp_TEMS_TCP_PIPE6S_PORT_NUM” on page 1295</u></li> <li>• <u>“Kpp_TEMS_TCP_UDP6_PORT_NUM” on page 1296</u></li> </ul>	Well-known ports for the monitoring agents over IPv6.
Network interface lists	IPv4 communication: <ul style="list-style-type: none"> <li>• <u>KDS_TEMS_TCP_KDEB_INTERFACELIST</u></li> <li>• <u>Kpp_AGT_TCP_KDEB_INTERFACELIST</u></li> </ul>	Specifies lists of network interfaces for the monitoring server and monitoring agent to use for IPv4 communication, respectively.
	IPv6 communication: <ul style="list-style-type: none"> <li>• <u>KDEB_INTERFACELIST_IPV6</u> (embed override parameter)</li> </ul>	Contains a list of interface addresses in the order for which these interface addresses should be discovered and used for IPv6 communication.

**Tip:** Configuration Manager simplifies the process of configuring communication protocols and ports by offering an easy way to set all components to the same values, rather than setting parameters individually for each component. If you are a PARMGEN user, consider moving to Configuration Manager.

The following procedure describes how to change the IP protocol, such as from IPv4 to IPv6, for your runtime environment using PARMGEN.

## Procedure

1. From the **Workflow - Primary Option Menu**, select option 2, **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members (KCIP@PG6)** panel is displayed.
2. Select option 1 to edit the runtime environment (RTE) configuration profile.  
The profile member is displayed.
3. Update the settings for the monitoring server to use to communicate with the other components, as follows:
  - a. Assign the communication protocol as the first priority protocol. The following example sets the first priority protocol to use the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6):

```
KDS_TEMS_COMM_PROTOCOL1      IP6SPIPE * Secure TCP over IPv6
```

- b. Specify the port number using the corresponding parameter for the specified protocol. The following example sets the port for the monitoring server for the IP6.SPIPE communication protocol; in this case, it is the default port number:

```
KDS_TEMS_TCP_PIPE6S_PORT_NUM  3660      * Secure IP.PIPE for IPv6
```

**Important:** For all port parameters that are not related to the defined communication protocol, remove the parameter value, if defined. Otherwise, parameter validation will fail.

- c. If this monitoring server is a remote monitoring server, specify the port number of the hub monitoring server by using the corresponding parameter for the specified protocol:

```
KDS_HUB_TCP_PIPE6S_PORT_NUM      3660      * Secure IP.PIPE for IPv6
```

- d. Specify the host.

**Note:** If you are migrating from IPv4 to IPv6, the host must be IPv6-enabled. Your site might reconfigure the existing host to enable IPv6, or it might add a new host with a different host name or IP address.

```
KDS_TEMS_TCP_HOST                  "SYSA"
```

- e. Update the network interface list. If you are migrating from IPv4 to IPv6, set the interface list parameter that is used for IPv4 communication to the hyphen (-) character:

```
KDS_TEMS_TCP_KDEB_INTERFACELIST  "-"
```

4. Update the settings for each of the monitoring agents to use to communicate with the other components, as follows:

- a. Assign the communication protocol as the first priority protocol for each of the agents. The following example sets the first priority protocol to use the IP6 .SPIPE communication protocol:

```
Kpp_AGT_COMM_PROTOCOL1           IP6SPIPE  * Secure TCP over IPv6
```

- b. Specify the port number using the corresponding parameter for the specified protocol:. The following example sets the well-known port for the monitoring server for the IP6 .SPIPE communication protocol.

```
Kpp_TEMS_TCP_PIPE6S_PORT_NUM      3660      * Secure IP.PIPE for IPv6
```

- c. Specify the host.

```
Kpp_TEMS_TCP_HOST                  "SYSA"
```

- d. Update the network interface list. If you are migrating from IPv4 to IPv6, set the interface list parameter that is used for IPv4 communication to the hyphen (-) character:

```
Kpp_AGT_TCP_KDEB_INTERFACELIST  "-"
```

5. Save the changes and return to the **Customize PARMGEN Configuration Profile Members** panel.

6. If you are using or migrating to IPv6 communication, update the list of interface addresses for IPv6 communication as follows:

- a. Select option 4 on the **Customize PARMGEN Configuration Profile Members** panel to customize the WCONFIG data set.
- b. Specify the list of interface addresses for IPv6 communication in the **KDEB\_INTERFACELIST\_IPV6** embed override parameter by editing embed override member WCONFIG(KDS\$PENV) for the monitoring server and WCONFIG(KAG\$PENV) for the monitoring agents. By default, this parameter is commented out; you must remove the asterisk (\*) that precedes the parameter name to enable the parameter setting.

```
KDEB_INTERFACELIST_IPV6=\
(2002:930:9b04:305:9:48:133:98)\
(2002:930:9b04:305:9:48:133:100)
```

- c. Save the changes and return to the **Customize PARMGEN Configuration Profile Members** panel.

7. Return to the **Workflow - Primary Options Menu** panel.

8. Regenerate the runtime members and jobs, as follows:

- a. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** (KCIP@PR1) panel is displayed.

- b. Select option 1 to submit the \$PARSE job (or the \$PARSESV job, if variables are enabled).
  - c. Return to the **Workflow - Primary Options Menu** panel.
9. Copy the runtime members from the work libraries to the production libraries, as follows:
  - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu.  
The **Submit Batch Jobs To Complete PARMGEN Setup** (KCIP@SUB) panel is displayed.
  - b. Optional: Select option 11 and submit the KCIJPCPR job to back up the production libraries.
  - c. Select option 12 and submit the KCIJPW2R job (or the KCIJPW1R job) to copy the work libraries to the production libraries.
10. Recycle the started tasks for the monitoring server and the monitoring agents.

## Managing multiple network interfaces

If you have multiple network interfaces, you can set the priority of the interfaces to use by using interface lists.

If your site runs more than one TCP/IP interface or network adapter on the same z/OS® image, you can specify network interfaces to be used by monitoring servers and monitoring agents on a z/OS® system.

You specify the network interfaces in the IP communication protocol parameters for each component.

When you have multiple network interfaces, you manage their priority of use through a set of configuration and embed parameters named **\*\_KDEB\_INTERFACELIST** and **KDEB\_INTERFACELIST\***, respectively.

The configuration process is different for IPv4 and IPv6 communication.

### Configuration parameters (for IPv4 only)

The following configuration parameters are available for setting the network interface to use for IPv4 communication.

**Note:** For setting the network interface to use for IPv6 communication, you must use embed override variable **KDEB\_INTERFACELIST\_IPV6**, which is described later in this topic.

**Important:** If you need to update the following parameter values, use Configuration Manager or PARMGEN to modify your configuration.

### **RTE\_TCP\_KDEB\_INTERFACELIST** (valid in Configuration Manager only)

This Configuration Manager-only parameter directs all components in the runtime environment to connect to a specific TCP/IP local interface for IPv4 communication.

This parameter sets the value of parameters **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** (for the monitoring server) and **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST** (for the monitoring agents).

If you want to disable all network interfaces for IPv4 in the runtime environment (for example, if you are moving from IPv4 to IPv6), perform the following steps:

1. If defined, remove parameters **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** and **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST** from members RTEDEF (Kpp\$PARM) and RTEDEF (Kpp\$lpar).
2. In RTEDEF (*rte\_name*), set the following parameter and value:

```
RTE_TCP_KDEB_INTERFACELIST " - "
```

### **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST**

This parameter specifies a list of network interfaces for the monitoring server to use for IPv4 communication.

**For Configuration Manager:**

You can use this parameter to set the list of network interfaces for the monitoring server to use for IPv4 communication, or you can use parameter `RTE_TCP_KDEB_INTERFACELIST`, which sets the value for all components in the runtime environment.

**For PARMGEN:**

This parameter is required to use IPv4 communication.

To disable the network interfaces for IPv4 for the monitoring server, set the value as follows:

```
KDS_TEMS_TCP_KDEB_INTERFACELIST " - "
```

**Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST**

This parameter specifies a list of network interfaces for the monitoring agent to use for IPv4 communication.

**For Configuration Manager:**

You can use this parameter to set the list of network interfaces for the monitoring agent to use for IPv4 communication, or you can use parameter `RTE_TCP_KDEB_INTERFACELIST`, which sets the value for all components in the runtime environment..

**For PARMGEN:**

This parameter is required to use IPv4 communication.

To disable the network interfaces for IPv4 for the monitoring agent, set the value as follows:

```
Kpp_AGT_TCP_KDEB_INTERFACELIST " - "
```

**Embed override parameters (environment variables)**

The following embed override parameters (environment variables) indicate the network interface to use depending on IPv4 or IPv6 communication:

**KDEB\_INTERFACELIST (for IPv4 only)**

Contains a list of interface addresses in the order for which these interface addresses should be discovered and used for IPv4 communication.

To update this setting, you use the [configuration parameters](#), as follows:

- Using Configuration Manager, modify the `RTE_TCP_KDEB_INTERFACELIST` parameter value.
- Using PARMGEN, modify the `KDS_TEMS_TCP_KDEB_INTERFACELIST` and `Kpp_AGT_TCP_KDEB_INTERFACELIST` parameter values.

If you are using IPv6, this parameter must be set as follows:

```
KDEB_INTERFACELIST=' - '
```

**KDEB\_INTERFACELIST\_IPV6 (for IPv6 only)**

Contains a list of interface addresses in the order for which these interface addresses should be discovered and used for IPv6 communication.

By default, this parameter is commented out:

```
*KDEB_INTERFACELIST_IPV6=-
```

To update the parameter, remove the asterisk (\*) and replace the hyphen (-) with one or more interface addresses.

Numeric IPv6 addresses must be enclosed in parentheses. Multiple addresses are separated by a backslash (\). For example:

```
KDEB_INTERFACELIST_IPV6=\
(2002:930:9b04:305:9:48:133:98)\
(2002:930:9b04:305:9:48:133:100)
```

To update this setting::

- Using Configuration Manager, edit embed override member EMBEDS (KDS\$PENV) for the monitoring server and EMBEDS (KAG\$PENV) for the monitoring agents. For more information, see [“Using override embed members in Configuration Manager” on page 337](#).
- Using PARMGEN, edit embed override member WCONFIG (KDS\$PENV) for the monitoring server and WCONFIG (KAG\$PENV) for the monitoring agents by selecting option **4** on the **Customize PARMGEN Configuration Profile Members** panel. For more information, see [“Override embed members” on page 417](#) and [“Customizing the override embed members” on page 471](#).

### Information required for network interface list

When configuring the network interface list for the monitoring server, you need the following information:

- The host name or IP address of the preferred interface.
- A list of host names or IP addresses, in descending order of preference. Use a blank (space) to separate the entries.
- An asterisk (\*) to prefer the interface associated with the default host name for the z/OS® image. To display this value, enter TSO HOMETEST at the command-line.
- An exclamation point followed by an asterisk (!\*) to use only the interface associated with the default host name for the z/OS® image.
- An exclamation point followed by a host name or IP address (!*hostname*) to use only the interface associated with *hostname*.

**Note:** A high-availability hub uses a dynamic virtual IP address (DVIPA).

- A minus sign followed by a host name or IP address (-*hostname*) to use any interface except the one associated with *hostname*.

#### Note:

- If you set the value of this parameter to !\* or !*hostname*, you must specify the same value for every component and product configured in all runtime environments on the same z/OS® image.
- In the default character set (LANG=en\_US.ibm-037), the code for an exclamation point is x'5A'. If you are using a character set other than the default, a different character might map to that code. To require a specific network interface, use the character that maps to x'5A' in your character set.

### Related links

- *OMEGAMON shared documentation:* [“Network interfaces” on page 152](#)
- *Configuration Manager:* [“How to: Create a high-availability hub monitoring server” on page 360](#)
- *Configuration Manager:* [“Using override embed members in Configuration Manager” on page 337](#)
- *PARMGEN:* [“Configuring a high-availability hub” on page 458](#)
- *PARMGEN:* [“Customizing the override embed members” on page 471](#)
- Technote: KDEB\_INTERFACELIST and its variants ("\*" and "!\*") are misunderstood (<https://www.ibm.com/support/docview.wss?uid=swg21282474>)

# Scenarios

Scenarios contain step-by-step instructions for configuring, reconfiguring, maintaining, upgrading, and replicating your runtime environments.

## Implementation scenarios

Implementation scenarios step you through the creation of runtime environments (RTEs) and the configuration of components and products in those environments.

“[Summary of QCF scenario features](#)” on page 612 summarizes the features of the RTEs in the Quick Configuration (QCF) scenarios. Note that model profiles that begin with \$ represent best-practice RTEs.

This table summarizes the features of the runtime environments in the Quick configuration scenarios.

*Table 71: Summary of QCF scenario features*

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
<a href="#">QCF01</a>	\$MDLHA	Full	High-availability hub	No	RTE configuration template for full, standalone RTE (High Availability (HA) Hub TEMS)
<a href="#">QCF02</a>	\$MDLHFV	Full	Static hub	Yes	RTE configuration template for full, standalone RTE (Static Hub TEMS and Agents with variables enabled)
<a href="#">QCF03</a>	\$MDLRBVB	Sharing-with-base	Remote	Yes	RTE configuration template for sharing-with-base read-only libraries RTE (Remote TEMS and Agents with variables enabled)
<a href="#">QCF04</a>	@MDLHF	Full	Static hub	No	RTE configuration template for full, standalone RTE (Static Hub TEMS and Agents)
<a href="#">QCF05</a>	@MDLRF	Full	Remote	No	RTE configuration template for full, standalone RTE (Remote TEMS and Agents)
<a href="#">QCF06</a>	@MDLRFV	Full	Remote	Yes	RTE configuration template for full, standalone RTE (Remote TEMS and Agents with variables enabled)
<a href="#">QCF07</a>	@MDLRBVB	Sharing-with-base	Remote	No	RTE configuration template for sharing-with-base read-only libraries RTE (Remote TEMS and Agents)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
<a href="#">QCF08</a>	@MDLRSS	Sharing-with-SMP/E	Remote	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Remote TEMS and Agents)
<a href="#">QCF09</a>	@MDLRSSV	Sharing-with-SMP/E	Remote	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Remote TEMS and Agents with variables enabled)
<a href="#">QCF10</a>	@MDLHSS	Sharing-with-SMP/E	Hub	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS and Agents)
<a href="#">QCF12</a>	@MDLHSB	Sharing-with-Base	Hub	No	RTE configuration template for sharing-with-base read-only libraries RTE (Hub TEMS and Agents)
<a href="#">QCF13</a>	\$MDLAFV	Full	N/A	Yes	RTE configuration template for full, stand-alone RTE (Agents only with variables enabled connecting to a z/OS TEMS in another RTE)
<a href="#">QCF14</a>	@MDLAF	Full	N/A	No	IBM-provided RTE configuration template for full, standalone RTE (Agents only connecting to a z/OS TEMS in another RTE)
<a href="#">QCF15</a>	\$MDLASBV	Sharing-with-base	N/A	Yes	RTE configuration template for sharing-with-base read-only libraries RTE (Agents only with variables enabled connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
<u>QCF16</u>	@MDLASB	Sharing-with-base	N/A	No	RTE configuration template for sharing-with-base read-only libraries RTE (Agents only connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
<u>QCF17</u>	@MDLASSV	Sharing-with-SMP/E	N/A	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Agents only with variables enabled connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
<u>QCF18</u>	@MDLASS	Sharing-with-SMP/E	N/A	No	RTE configuration template for sharing-with-SMP/E datasets RTE (Agents only connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
<u>QCF19</u>	\$MDLHSSV	Sharing-with-SMP/E	Hub	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS, enhanced 3270 user interface (TOM) and OMEGAMON for JVM (KJJ) Agent only with variables enabled)
<u>QCF20</u>	\$MDLHSS	Sharing-with-SMP/E	Hub	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS, enhanced 3270 user interface (TOM) and OMEGAMON for JVM (KJJ) Agent only)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
<a href="#">QCF21</a>	\$MDLHSBV	Sharing-with-base	Hub	Yes	Predefined RTE models include a z/OS Tivoli Enterprise Monitoring Server (TEMS, whether this is a Hub TEMS or a Remote TEMS), an OMEGAMON enhanced 3270 user interface (TOM) and both types of z/OS monitoring Agents (Agents that run in the z/OS TEMS address space and Agents that run in their own standalone Agent address spaces).
<a href="#">QCF22</a>	@MDLHSSV	Sharing-with-SMP/E	Hub	Yes	Predefined RTE models include a z/OS Tivoli Enterprise Monitoring Server (TEMS, whether this is a Hub TEMS or a Remote TEMS), an OMEGAMON enhanced 3270 user interface (TOM) and both types of z/OS monitoring Agents (Agents that run in the z/OS TEMS address space and Agents that run in their own standalone Agent address spaces).

With the exception of QCF10, the QCF scenarios illustrate the use of IBM-provided model RTEs to create new RTEs.

**Tips:**

- These scenarios assume that you are using the PARMGEN Workflow interface to perform the configuration steps.
- For information on getting help for parameters, see the online help in the configuration profile (F1).
- For locating and changing values for related parameters, see [XF edit macro](#).

Scenarios involving maintenance-type tasks that you can perform using the PARMGEN method are in [SMP/E maintenance and upgrade scenarios](#) and [Runtime environment reconfiguration scenarios](#). Scenarios that illustrate how to clone RTEs and deploy them to other LPARS are in [Deployment scenarios](#).

## Scenario QCF01: Configuring a full RTE with a high-availability hub monitoring server

If your environment meets the requirements, you should create a high-availability (HA) hub monitoring server. An HA hub is not defined to run on any specific system; it retains the same parameter values on any system in the sysplex. So it can be started on any LPAR using the same DVIPA address. Using an HA hub ensures that

monitoring can continue with minimal disruption if the current system goes down, is shut down for maintenance, or suffers any other problem. You can use the IBM-provided template to create this RTE or you can configure it from scratch.

## Before you begin

An HA hub has the following requirements:

- It must be configured in a sysplex.
- It must have a dynamic virtual IP address (DVIPA), so it can respond to the same IP address on any LPAR in the sysplex. The DVIPA address must be defined on any LPAR that is a candidate for the HA hub.
- Its runtime libraries must be stored on shared DASD, so it can start on any LPAR in the sysplex without requiring replication of the libraries.
- It must be configured in its own runtime environment (RTE), without any monitoring agents configured in the RTE.
- It is recommended that its runtime environment not use system variables. The high-availability hub retains the same parameter values on any system in the sysplex.

Before you begin configuring the RTE, make sure that an application-instance-specific (private) DVIPA address has been created and defined to DNS as a new name (for example, OMEGAHUB). If you intend to enable the self-describing agent feature on the monitoring server, or to configure any products that require a z/OS® UNIX® System Services file system, make sure that the required Hierarchical File System (HFS) or z/OS File System has been created or set aside and that it is mounted before you begin configuration. The file system must have access to a Java™ runtime environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) on an HFS or zFS file system.

## About this task

For this scenario you use the IBM-provided RTE template \$MDLHA.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

## Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:    +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select \$MDLHA from the presented list of models. The configuration software then populates the field

with the fully-qualified name for the RTE. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and job card data.

### Jobcard data

If a customized jobcard is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the jobcard is harvested from *gbl\_target\_hilev*.TKANSAM SMP/E target library where the initial PARMGEN sample jobcard default is supplied. If you specified a JOBGEN output library, the jobcard information is harvested from that location. You can modify the retrieved data as needed. The customized jobcard is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

3. Press Enter to proceed to the next panel.  
The "Set up/Refresh PARMGEN Work Environment for an RTE (2 of 3)" panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:      0M_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

4. Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

#### GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

#### GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

5. Press Enter to proceed to the next panel.  
The Set Up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3) is displayed.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR          Top of data
Command ==>  Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ High Availability Hub TEMS_____
More:                +

RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
(&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
(*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:   _____
GBL_DSN_ACF2_MACLIB1:  _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:         HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:      HA_____ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)
Note: Type BACK to go back one panel. Type UTIL to access utility menu.

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

6. If you are using high-level index for an environment that is not SMS-managed, specify values for the RTE\_SMS\* parameters.
7. If you select the IBM-provided model, you do not need to make any other changes to this panel. If you are setting the RTE from scratch, set **KDS\_TEMS\_HA\_TYPE** to HA. Optionally, you can customize the values for the following parameters as required by your site requirements:
  - **RTE\_TEMS\_NAME\_NODEID**
  - **RTE\_TCP\_PORT\_NUM**
  - **RTE\_VTAM\_APPLID\_PREFIX**
  - **RTE\_STC\_PREFIX**
8. Press Enter to proceed to the next panel. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

There are two conditions as to why this panel is presented:
1. You have asked to configure a High Availability (HA) Hub.
   Only the TEMS (KDS) can be configured in an HA Hub RTE.

2. The only product installed in this SMP/E environment
   is the TEMS (KDS).

RTE_NAME: SYSA
TEMS:     Tivoli Enterprise Monitoring Server V630
GBL_TARGET_HILEV: TDITNT.DEMO

Press ENTER to continue.

```

9. Press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow main menu.  
The KCIJPCFG job submits a second job, KCIJPPRF. Do not proceed to the next step until you see a return code indicating that both jobs have finished successfully.

## Result

The PARMGEN work libraries are allocated, and the configuration profiles are created.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided when you set up the work environment. They also contain default values for all required parameters and some optional parameters. The amount of additional customization that is required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply certain site-specific values. You must also enable and configure any features you want to exploit (such as event forwarding or support for self-describing agents).

### About this task

Only a high-availability (HA) monitoring server has been configured in this runtime environment (RTE). The parameters discussed here are not the only parameters for which you must either accept or override the default values in the configuration profiles for the runtime environment. After you set the parameters shown here, be sure to go through the configuration profiles to make sure the parameter values are correct for the configuration you want.

- [Customizing the runtime environment configuration profile](#) discusses the values and features that are typically customized in the RTE configuration profile.
- [Customizing the global configuration profile](#) discusses the values that should be reviewed or updated if you are creating a new RTE.

### Procedure

1. From the Workflow - Primary Option Menu, select **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the Command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Edit the RTE configuration profile.
  - a. Select option 1 to edit the RTE profile.
  - b. Customize the profile as follows.
    - Change all instances of \_TCP\_HOST host values to the reserved DVIPA name. For example:

```

ISREDDE2 TSTEST.&userid.DEMO.WCONFIG (DEMO)
Command ==> C &hostname OMEGHAHUB ALL                               Scroll
==> CSR
***** ***** Top of Data
***** *****
- - - - - 307 Line(s) not
Displayed
000308 **          000029 RTE_TCP_HOST          "OMEGHAHUB"
- - - - - 197 Line(s) not
Displayed
000506 RTE_TCP_HOST          "OMEGHAHUB"
- - - - - 186 Line(s) not
Displayed
000693 ** Note: If this is a High-Availability Hub TEMS, KDS_TEMS_TCP_HOST
- - - - - 1 Line(s) not
Displayed
000695 KDS_TEMS_TCP_HOST          "OMEGHAHUB"
- - - - - 90 Line(s) not
Displayed
000786 ** Note: If this is a High-Availability Hub TEMS,
KDS_PH01_TEMS_TCP_HOST
- - - - - 9 Line(s) not
Displayed
000796 KDS_PH01_TEMS_TCP_HOST          "OMEGHAHUB"
- - - - - 32 Line(s) not
Displayed
***** ***** Bottom of Data
***** *****

```

- If you are configuring the RTE from scratch, instead of using the model profile, customize the monitoring server protocols to support only IP: At least one of the values must be IPPPIPE, IP6PIPE, IPSPIPE, or IP6SPIPE. Nullify the **KDS\_TEMS\_COMM\_PROTOCOL2** parameter by setting it to "" (instead of the SNA value set initially).

```

ISREDDE2 TSTEST.&userid.DEMO.WCONFIG (DEMO)
Command ==> CSR                               Scroll ==>
000658 ** TEMS communication protocols:
000659 ** Specify the communication protocols to be used by the local TEMS.
000660 ** Valid values are IPPPIPE, IP, SNA, IP6PIPE, IP6, IPSPIPE, and
000661 ** IP6SPIPE. When communication with another ITM component (TEPS,
Hub
000662 ** TEMS or Remote TEMS, Agents) is initiated, the TEMS tries
Protocol 1
000663 ** first and goes to Protocol 2 and so on, in case of failure.
000664 ** Note: Update the corresponding KDS_TEMS_TCP_*_PORT_NUM port
number
000665 ** parameter for each KDS_TEMS_COMM_PROTOCOLx parameter
enabled.
000666 ** For example, if KDS_TEMS_COMM_PROTOCOL1="IPPIPE", set the
000667 ** corresponding KDS_TEMS_TCP_PIPE_PORT_NUM parameter.
000668 ** If KDS_TEMS_COMM_PROTOCOL2="IP" (for IP.UDP), set the
000669 ** corresponding KDS_TEMS_TCP_UDP_PORT_NUM parameter.
000670 ** If this is a Remote TEMS, update the KDS_HUB_* parameters
000671 ** by uncommenting out the corresponding
KDS_HUB_TCP_*_PORT_NUM
000672 ** parameters and specify the Remote's Hub TEMS port numbers.
000673 KDS_TEMS_COMM_PROTOCOL1          IPPPIPE
000674 KDS_TEMS_COMM_PROTOCOL2          ""

```

- Change the value of the **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** parameter from the null default ("" ) to *!dvipa\_hostname*, where *dvipa\_hostname* is the private DVIPA name set for

the **KDS\_TEMS\_TCP\_HOST** parameter (in this example, !OMEGAHUB). This setting ensures that the high-availability hub is restricted to its private DVIPA address and cannot interfere with the remote monitoring server configured on the same LPAR.

```
ISREDDE2 TSTEST.&userid.DEMO.WCONFIG(DEMO)
Command ==>                                     Scroll ==>
CSR
000698 ** If the TEMS requires network interface list support:

000699 ** Note: If this is a High-Availability Hub TEMS, uncomment the

000700 **      KDS_TEMS_TCP_KDEB_INTERFACELIST and set its value to

000701 **      "!<dvipa_address>"

000702 KDS_TEMS_TCP_KDEB_INTERFACELIST      "!OMEGAHUB"
```

- If the Integrated Cryptographic Service Facility (ICSF) is installed on the z/OS system, you can configure the monitoring server to enable encryption and decryption of communication among products and framework components. Enable IBM Tivoli Monitoring encryption by uncommenting the **RTE\_SECURITY\_KAES256\_KEY** parameter. If you are using a KAES256 encryption key other than the IBM-supplied PARMGEN default key, specify the value. This value must match across your site. If you enable encryption, you must also edit the \$GBL\$USR profile to set the **GBL\_DSN\_CSF\_SCSFMODE0** parameter to the name of your site's ICSF library.

```
ISREDDE2 TSTEST.&userid.DEMO.WCONFIG(DEMO)
Command ==>                                     Scroll ==>
CSR
000462 ** -----
-
000463 ** (Required) KAES256 encryption key:

000464 ** The "RTE_SECURITY_KAES256_KEY" value is encrypted and

000465 ** xKANPARU(KAES256) member is created as part of the

000466 ** xKANSAMU(KCIJPSEC) composite security or standalone KSDKAES job.

000467 ** The TEMS and Agents started tasks are also updated to concatenate

000468 ** the ICSF load library (GBL_DSN_CSF_SCSFMODE0 parameter value) in
the
000469 ** RKANMODL DD.

000470 ** Notes:

000471 ** 1. Any customizations to the key must now be made through the

000472 **      global RTE RTE_SECURITY_KAES256_KEY parameter as this

000473 **      key is applicable to all components, including the Agents.

000474 ** 2. Starting in ITM6.3.0, specification of the ICSF load library
and
000475 **      enabling the KAES256 key is required.

000476 ** 3. For an existing RTE, ensure that you rerun the

000477 **      xKANSAMU(KCIJPSYS) job to refresh the TMS:Engine started tasks

000478 **      in the system procedure library (GBL_DSN_SYS1_PROCLIB value).

000479 ** 4. Related PARMGEN CONFIG profile parameters:

000480 **      - GBL_DSN_CSF_SCSFMODE0 (DSN value is concatenated in the

000481 **      TEMS and Agent STCs' RKANMODL DD)

000482 **      - KDS_KMS_SECURITY_COMPATMD (applicable to ITM6.3.0+ only)

000483 ** -----
-
000484 RTE_SECURITY_KAES256_KEY      "IBMTivoliMonitoringEncryptionKey"
```

- If you intend to enable support for self-describing agents, or configure any products that require a z/OS® UNIX® System Services directory, set **RTE\_USS\_RTEDIR** to the directory created for that purpose.

```

Command ==>                                     Scroll ==>
CSR
000488 ** (Optional) If any products to be configured in this RTE require
000489 ** Unix System Services (USS) directories created, specify the main
RTE
000490 ** HFS/zFS USS directory (#rtedir):

000491 ** Note: This is also required if you are enabling the Self-
describing
000492 ** Agent (SDA) functionality in the z/OS TEMS and Agents:

000493 ** Related PARMGEN CONFIG profile parameters (for SDA):

000494 **      - GBL_HFS_JAVA_DIRn
000495 **      - GBL_DSN_SYS1_SBPXEXEC
000496 **      - RTE_USS_RTEDIR
000497 **      - KDS_KMS_SDA
000498 **      - KDS_TEMA_SDA
000499 **          - KDS_KMS_SDA_NO_GRANULAR
000500 **      - Kpp_AGT_TEMA_SDA (per Kpp Agent exploiting SDA)
000501 RTE_USS_RTEDIR                "/tstest"

```

- To enable the SDA feature, set **KDS\_KMS\_SDA** to Y.
- Save your changes and return to the **Customize PARMGEN Configuration Profile Members** panel.
- Edit the \$GBL\$USR profile as follows:
    - From the Customize PARMGEN Configuration Profile Members panel, select option 2. The profile is displayed.
    - Set the **GBL\_DSN\_CSF\_SCSFMODE0** parameter to the name of your site's ICSF load library.
    - If any of the components you are configuring within this RTE require Java support or if you enabled the self-describing agent (SDA) feature now or intend to at a later time, customize the **GBL\_HFS\_JAVA\_DIR1** parameter and point to a valid path to a Java installation on HFS or zFS. Note that `/bin` is automatically appended to this value by the PARMGEN KCIJPUS\* z/OS UNIX jobs.

## Result

You have completed the customizations required to set up the configuration profiles for the RTE.

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

## Procedure

- From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1

1. Create runtime members/jobs in all WK* libs.  $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.        POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

Description	REQ	Job Name	Status	Date
1. Composite SUBMIT job (See JCL comments) ** OR **		KCIJPSUB		More: +
2. Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3. Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4. Run product security steps	(Yes)	KCIJPSEC		
5. Update variable-named runtime mbrs	(No )	KCIJPUPV		
6. (Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7. Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8. Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9. Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10. Verify the configuration jobs	(Tip)	KCIJPIVP		
11. Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12. Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

### What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF02: Configuring a full RTE with a static hub and variables enabled

If your site does not meet the requirements for a high-availability hub monitoring server, and you want to configure a hub on z/OS, configure a static hub. You can configure other products in the same runtime environment (RTE) as a static hub, and you can also enable system variables in the same runtime environment. You can use an IBM-provided model to create the RTE and do minimal customization to get up and running, or create the RTE from scratch and customize to your exact requirements.

### Before you begin

If you intend to enable the self-describing agent feature on the monitoring server, or to configure any products that require a z/OS® UNIX® System Services file system, make sure that make sure that the required Hierarchical File System (HFS) or z/OS File System has been created or set aside and that it is mounted before you begin configuration. The file system must have access to a Java™ runtime environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) on an HFS or zFS file system.

### About this task

This scenario creates a full (RTE) with variables enabled. The RTE comprises a z/OS-based static hub monitoring server, OMEGAMON monitoring agents, and the OMEGAMON enhanced 3270 user interface. For this scenario, you use IBM-provided RTE template \$MDLHFV. You can also create the RTE from scratch. This scenario involves completing five main steps using the configuration software:

1. Defining the new RTE.
2. Setting up PARMGEN work environment for the runtime environment
3. Customizing the configuration profiles
4. Creating the runtime members and jobs
5. Submitting batch jobs to complete the RTE setup

After you complete these steps, you complete any configuration steps required outside the configuration software and start the products.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

UNIT      /  STORCLAS /
VOLSER    /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                    HLQ of SMP/E target (TK*) datasets  ----- / ----- /
```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.
```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG
```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.
```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the **Workflow - Primary Options Menu**. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
                More:      +
Specify the RTE model profile to use:
==> -----
- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

- To use the IBM-provided model RTE, specify \$MDLHFV in the first field. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

- Press Enter to proceed to the next panel. The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
                UNIT      /  STORCLAS /
                VOLSER    /  MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055----- / ----- /
                HLQ of SMP/E target (TK*) datasets ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                Work datasets UNIT name

GBL_REGION:     OM_____
                JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

## GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

## GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

5. Press Enter to proceed to the next panel.

The Set Up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3) is displayed.

```
KCIP@PG3  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                                     Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ Static Hub TEMS/Agents w/ variables.
  More:      +
RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y   (Y, N)   (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y   (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y   (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: &SYSNAME.:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __   (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)
```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** which indicates that there is additional content on the panel.)

6. If your environment is not SMS-managed, you must specify the VSAM values. If you are using the IBM-provided model, you do not need to make any other changes. If you are setting up the RTE from scratch, set RTE\_SYSV\_SYSVAR\_FLAG to Y. Optionally, you can customize the following parameters using system or user-defined variables:
  - **RTE\_TEMS\_NAME\_NODEID** (for example, &SYSNAME.:CMS)

- **RTE\_TCP\_PORT\_NUM** (for example, &RTE\_PORT)
  - **RTE\_VTAM\_APPLID\_PREFIX** (for example, K&SYSCclone.)
  - **RTE\_STC\_PREFIX** (for example, &STCPREF.)
  - **RTE\_SECURITY\_CLASS** (for example, &OMEGSAF,)
7. Press Enter to proceed to the next panel.  
The Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

8. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values. You must enable and configure any features you want to exploit (such as event forwarding or support for self-describing agents). In this scenario, you must also edit the variables configuration profile (%GBL\_USER\_JCL%.%RTE\_NAME%) to specify resolution values for any user-defined variables.

## About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the RTE\_NAMESV parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. In addition, you must also customize the product-specific parameters listed in [Configure OMEGAMON monitoring agents and other components](#), as applicable. Optionally, you can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).

In the global profile, you can assign symbolics to any of the parameters. At a minimum, you must assign a symbolic value to the GBL\_HFS\_JAVA\_DIR1 parameter, for example, &GBL\_HFS\_JAVA\_DIR1. or change the literal default to a site-appropriate one. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

In the variables profile (%GBL\_USER\_JCL%.%RTE\_NAME%), if you set the resolution value for the **KDS\_KMS\_SDA** in the RTE profile to Y, provide site-specific values for the following symbols:

- **RTE\_USS\_RTEDIR**
- **GBL\_HFS\_JAVA\_DIR1**

In addition, provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## Procedure

1. To edit the configuration profiles, select Customize PARMGEN configuration profiles from the Workflow. The Customize PARMGEN Configuration Profile Members panel is displayed.
2. Type DLAJOB in the Command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select each profile and make the appropriate edits.
4. Press F3 to save the changes, then press F3 to return to the main Workflow panel.

## What to do next

If you need to further customize the configuration using the override embed files, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on

the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

- From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

- Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
- If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - Type 1s in pane KCIP@PR1, and then go through the validation report.
  - Correct the parameter values.
  - Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

- From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.  KCIJPCFG
2.  Customize PARMGEN configuration profiles.  SYSA
3.  Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5.  Perform post configuration steps.         POSTCFG
R   Create next RTE - Reset fields.          New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)  KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs    (Yes) KCIJPLOD
4.  Run product security steps               (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs      (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs            (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## Scenario QCF03: Creating a sharing-with-base runtime environment with a remote monitoring server and variables enabled

A sharing-with-base runtime environment (RTE) shares its read-only runtime libraries with other RTEs. The configuration software automatically creates the base RTE when you configure the first RTE that shares it. Sharing RTEs configured subsequently can then reference that base RTE. One advantage to using variables in sharing-with-base RTEs is that you can use them to switch base libraries, for example from test to production libraries. You can configure the RTE from scratch, or use the IBM-provided \$MDLRSB model RTE.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
                z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).  
If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/ MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
You have asked to configure a new RTE profile.  
  
Proceed to configure a new RTE profile.  
  
Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>  
  
Quick Configuration Mode  
  
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA  
  
Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the **Workflow - Primary Options Menu**. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                Quick Configuration Mode

Specify the RTE model profile to use:
==> -----
More:      +

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

- To use the IBM-provided model RTE, specify \$MDLRBVB in the first field. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

- Press Enter to proceed to the next panel. The "**Set up/Refresh PARMGEN Work Environment for an RTE (2 of 3)**" panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:     SYSA

Enter parameter values appropriate for your environment:

                                UNIT / STORCLAS /
                                VOLSER / MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055----- / ----- /
                                HLQ of SMP/E target (TK*) datasets ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                                Work datasets UNIT name

GBL_REGION:     OM_____
                                JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel. Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

## GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

## GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

5. Press Enter to proceed to the next panel.

The Set Up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3) is displayed.

```
KCIP@PG3  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                                     Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-Base RTE w/ Remote/Agents w/ vars.____
More:                +

RTE_TYPE:             SHARING_      (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_  (ex.: TDITN.IDTST
                        (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_  (ex.: TDITN.IDTST
                        (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                        (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                        (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y   (Y, N)   (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y   (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:   _____
GBL_DSN_ACF2_MACLIB1:  _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y   (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID:  &SYSNAME.:CMS_____ (e.g.,DEMO:cms)))
KDS_TEMS_TYPE:         REMOTE__ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)
```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** which indicates that there is additional content on the panel.)

6. If this RTE is not SMS-managed, provide the VSAM values.
  - If you are using the IBM-provided model, provide values for the following parameters:
    - **RTE\_X\_HILEV\_SHARING**
    - **RTE\_SHARE**

Any other changes are optional.

- If you are setting up the RTE from scratch, specify the following values.
  - **RTE\_TYPE=SHARING**
  - **RTE\_X\_HILEV\_SHARING=** *base\_rte\_hlq*
  - **RTE\_SHARE=** *base\_rte\_name*
  - **KDS\_TEMS\_TYPE=REMOTE**
  - **RTE\_SYSV\_SYSVAR\_FLAG=Y**

Optionally, specify variables for the following parameters:

- **RTE\_TEMS\_NAME\_NODEID** (for example, &SYSNAME . :CMS)
- **RTE\_TCP\_PORT\_NUM** (for example, &RTE\_PORT .)
- **RTE\_VTAM\_APPLID\_PREFIX** (for example, K&SYSCLONE .)
- **RTE\_SECURITY\_CLASS** (for example, &OMEGSAF.)

**Tip:** If you have already created a sharing-with-base RTE that shares the same base and is set to load the base libraries, change **RTE\_LOAD\_SHARED\_LIBS** to N to avoid multiple refreshes.

**Note:** You cannot disable variable support in this RTE. If you decide that you do not want to use variables, return to the KCIP@PG1 panel and select another model profile that does not use variables.

7. Press Enter to proceed to the next panel.

The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                                     Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

8. Deselect any products that you do not want to include in the RTE, then change `Confirm ==> N` to `Y`, and press `Enter`.  
The JCL for the `KCIJPCFG` job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job.  
The `KCIJPCFG` job submits a second job, `KCIJPPRF`. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the `PARMGEN` templates in `IKAN*` libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values. You must enable and configure any features you want to exploit (such as event forwarding or support for self-describing agents). In this scenario, you must also edit the variables configuration profile (`%GBL_USER_JCL%.%RTE_NAME%`) to specify resolution values for any user-defined variables.

## About this task

The RTE profile inherits the symbolics specified on the `KCIP@PG3` panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, `&SYSNAME.`), except for the `RTE_NAMESV` parameter instance. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. In addition, you must also customize the product-specific parameters listed in [Configure OMEGAMON monitoring agents and other components](#), as applicable. Optionally, you can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).

In the global profile, you can assign symbolics to any of the parameters. At a minimum, you must assign a symbolic value to the `GBL_HFS_JAVA_DIR1` parameter, for example, `&GBL_HFS_JAVA_DIR1.` or change the literal default to a site-appropriate one. You must also edit the value for load library parameters `GBL_DSN_CSF_SCSFMOD0` and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- `RTE_NAME`
- `RTE_HILEV`
- `RTE_VSAM_HILEV`
- `RTE_X_HILEV_SHARING`
- `RTE_SHARE`
- `Kpp_*_VTAM_APPL_*`

In the global profiles, these are the following parameters:

- `GBL_DSN_DB2_*`
- `GBL_DSN_IMS_*`
- `GBL_DSN_CICS_CTG_DLL`
- `GBL_DSN_WMQ_*`
- `GBL_DSN_CSF_SCSFMOD0`
- `GBL_DSN_TCP_SYSTCPD_TCPDATA`

In the variables profile (`%GBL_USER_JCL%.%RTE_NAME%`), if you want to use the self-describing agent feature, set the resolution value for `KDS_KMS_SDA` to `Y`, and provide site-specific values for the following symbols:

- RTE\_USS\_RTEDIR
- GBL\_HFS\_JAVA\_DIR1

In addition, provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## Procedure

1. To edit the configuration profiles, select Customize PARMGEN configuration profiles from the Workflow. The Customize PARMGEN Configuration Profile Members panel is displayed.
2. Type DLAJOB in the Command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select each profile and make the appropriate edits.
4. Press F3 to save the changes, then press F3 to return to the main Workflow panel.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE (or \$PARSES if variable support is enabled) job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

## Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSES: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status    Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.

- a. Type 1s in pane KCIP@PR1, and then go through the validation report.
- b. Correct the parameter values.
- c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE    Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs          (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

3. If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.

For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF04: Configuring a full RTE with a static hub monitoring server

If your site does not meet the requirements for a high-availability hub monitoring server, but you want to configure a hub on z/OS®, configure a static hub. You can configure other products in the same runtime environment (RTE) as a static hub. This scenario creates a full (RTE) comprising a z/OS-based hub monitoring server, OMEGAMON® monitoring agents, and the OMEGAMON® enhanced 3270 user interface. You can use an IBM-provided model to create the RTE and do minimal customization to get up and running, or create the RTE from scratch and customize to your exact requirements.

### Before you begin

If you intend to enable self-describing agents, or to configure any products that require a z/OS® UNIX® System Services directory, and you plan to create a new file system for that purpose, ensure that the file system is created and mounted before submitting the z/OS UNIX jobs. Make sure that the file system has access to a Java™ runtime environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) on an HFS or zFS file system.

### About this task

For this scenario, you use IBM-provided RTE model profile @MDLHF.

This scenario involves completing five main steps using the configuration software:

1. Defining the new RTE.
2. Setting up PARMGEN work environment for the runtime environment.
3. Customizing the configuration profiles.
4. Creating the runtime members and jobs.
5. Submitting batch jobs to complete the RTE setup.

After you complete these steps, complete any configuration steps required outside the configuration software and start the products.

**Note:** If your environment meets the requirements for a high-availability (HA) hub monitoring server, consider configuring one first, and then creating a full RTE with a remote monitoring sever on the same LPAR.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

## Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT   /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  _____  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/ MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.   SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.          POSTCFG
R   Create next RTE - Reset fields.           New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the **Workflow - Primary Options Menu**. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:    +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. To use the IBM-provided model RTE, type a question mark (?) in the field, then select the \$MDLHF template. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and job card data.

## Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from %gbl\_target\_hilev%. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

3. Press Enter to proceed to the next panel.

The "Set up/Refresh PARMGEN Work Environment for an RTE (2 of 3)" panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```
KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITM.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  _____
GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name
GBL_REGION:     OM_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.
```

4. Review the values on the panel and override them as necessary.

### **GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

### **GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

5. Press Enter to proceed to the next panel.

The Set Up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3) is displayed. The preset values are the same whether you selected \$MDLHF or not.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ Static Hub TEMS/Agents_____
More:                +

RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:           TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
(&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
(*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:  _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     -- (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:    1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:      IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Note the **More: +** which indicates that there is additional content on the panel.)

6. If your environment is not SMS-managed, you must specify the VSAM values. Optionally, you can customize the following parameters. These values will be inherited by the corresponding product-specific parameters in the RTE configuration profile.
  - **RTE\_TEMS\_NAME\_NODEID**
  - **RTE\_TCP\_PORT\_NUM**
  - **RTE\_VTAM\_APPLID\_PREFIX**
  - **RTE\_STC\_PREFIX**
7. Press Enter to proceed to the next panel. The Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product target library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE
```

```
Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected
```

```
When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)
```

```
 Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

8. Deselect any products that you do not want to include in the RTE, then change `Confirm ==> N` to `Y`, and press `Enter`.  
The JCL for the `KCIJPCFG` job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job.  
The `KCIJPCFG` job submits a second job, `KCIJPPRF`. Wait until both jobs complete before proceeding to the next step. Until the jobs have completed, you will see a status of "Submitted" for this step on the main Workflow panel.

## Result

The configuration software allocates the PARMGEN work libraries, creates the configuration profiles, and populates the PARMGEN templates in `IKAN*` libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided when you set up the work environment. They also contain default values for all required parameters and some optional parameters. The amount of editing required to customize the configuration profiles depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values. You must also configure the local monitoring server to report to the hub monitor server and enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

At a minimum, in the RTE configuration profile you must set the `KDS_HUB_*` parameters to point to the appropriate values for the hub monitoring server to which this remote reports.

- `KDS_HUB_TEMS_NAME_NODEID`
- `KDS_HUB_VTAM_APPL_GLB_BROKER` (if the hub is enabled for SNA)
- `KDS_HUB_VTAM_NETID` (if the hub is enabled for SNA)
- `KDS_HUB_TCP_HOST`

- **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**

If the hub is an HA hub, you must set the monitoring server and agent **KDEB\_INTERFACELIST** parameters (**KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** and **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST**) to "!\*"

In addition, you might need to configure one or more of the following parameters:

- If any of the products that you are configuring require any z/OS® UNIX® System Services directories running on either the Hierarchical File System (HFS) or on the zSeries File System (zFS), or if you are planning to enable the self-describing agent (SDA) feature, specify the directory to be used (**RTE\_USS\_RTEDIR**).
- To enable the SDA feature, set **KDS\_KMS\_SDA** to Y.
- To automate APF-authorization of all generated started tasks by generating the required commands for all libraries concatenated within the STEPLIB and RKANMODL DD names of the started tasks, set **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** to Y.
- To collect historical data for display in either the Tivoli Enterprise Portal or the OMEGAMON Enhanced 3270 user interface, data sets must be allocated to store the data. The persistent datastore (PDS) that manages the collected data must be configured (see [Allocate data sets and configure maintenance for historical data](#)). It is enabled by default to collect at the agent.

You may want to configure some or all of the following features on the monitoring server: support for self-describing agents, auditing, event forwarding, SOAP server. For instructions on enabling these features, see [Configure a Tivoli Enterprise Monitoring Server](#).

The parameters discussed here are not the only parameters for which you must either accept or override the default values in the configuration profile for the runtime environment. After you set the parameters shown here, be sure to go through the configuration profiles to make sure the parameter values are correct for the configuration you want.

- [Customizing the runtime environment configuration profile](#) discusses the values and features that are typically customized in the RTE configuration profile.
- [Customizing the global configuration profile](#) discusses the values that should be reviewed or updated if you are creating a new RTE.

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the Command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
4. Select 2 to edit the \$GBL\$USR profile.

## What to do next

If you need to further customize the configuration using the override embed files, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

## Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ===>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ===>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.        POSTCFG
R Create next RTE - Reset fields.           New RTE
Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

	Description	REQ	Job Name	Status	Date
				More:	+
1.	Composite SUBMIT job (See JCL comments) ** or **		KCIJPSUB		
2.	Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3.	Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4.	Run product security steps	(Yes)	KCIJPSEC		
5.	Update variable-named runtime mbrs	(No )	KCIJPUPV		
6.	(Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7.	Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8.	Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9.	Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10.	Verify the configuration jobs	(Tip)	KCIJPIVP		
11.	Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12.	Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

### What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF05: Configuring a full RTE with a remote monitoring server

If you have already configured a hub monitoring server, you can configure additional remote monitoring servers in their own runtime environments (RTEs). OMEGAMON® on z/OS® and OMEGAMON® for Storage on z/OS® monitoring agents are required to run in the same address space as a monitoring server, so one must be configured in each RTE in which either of these agents is running. Even if you are not running either of these agents, but you are monitoring numerous RTEs, you might want to configure additional monitoring servers to distribute the work load and reduce network traffic. The remote monitoring servers must be configured to connect to a hub monitoring server.

### About this task

In this scenario, you configure a full RTE which contains both a remote monitoring server and several monitoring agents. A full runtime environment (RTE) contains a full set of dedicated libraries, consisting of both RTE-specific libraries and a copy of the SMP/E installation read-only libraries that are eligible for sharing with other RTEs. You can use an IBM-provided model @MDLRF to set up this RTE, or configure it from scratch.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the **Workflow - Primary Options Menu**. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. To use the IBM-provided model RTE, specify @MDLRF in the first field. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and jobcard data.

### Jobcard data

If a customized jobcard is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the jobcard is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample jobcard default is supplied. If you specified a JOBGEN output library, the jobcard information is harvested from that location. You can modify the retrieved data as needed. The customized jobcard is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

3. Press Enter to proceed to the next panel.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV:  IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____ /
GBL_SYSDA_UNIT:   SYSDA____
                   Work datasets UNIT name
GBL_REGION:       OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

4. Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

5. Press Enter to proceed to the next panel.

The Set Up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3) is displayed.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ Remote TEMS/Agents_____
  More:      +
RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:         _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:  _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        REMOTE__ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** which indicates that there is additional content on the panel.)

6. Customize the parameters as follows:

- If your environment is not SMS-managed, specify the VSAM values.
- If you are using the IBM-provided model, you do not need to make any further customizations. Optionally, you can customize the following parameters to conform to site conventions. These values will be inherited by the corresponding product-specific parameters in the RTE configuration profile.
  - **RTE\_TEMS\_NAME\_NODEID**
  - **RTE\_TCP\_PORT\_NUM**
  - **RTE\_VTAM\_APPLID\_PREFIX**
  - **RTE\_STC\_PREFIX**
- If you are configuring the RTE from scratch, configure the following parameters as indicated.
  - **RTE\_TYPE=FULL**
  - **RTE\_TEMS\_CONFIGURED\_FLAG=Y**

- **KDS\_TEMS\_TYPE=REMOTE**

7. Press Enter to proceed to the next panel.  
The Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>
   Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp  Component or Product Name and Version
-----
/ KAH  System Automation Monitoring Agent V350
/ KC5  OMEGAMON for CICS V550
/ KDO  Tivoli Decision Support for z/OS Agent V181
/ KDS  Tivoli Enterprise Monitoring Server V630
/ KD4  ITCAM for SOA Agent V711
/ KD5  OMEGAMON for DB2 PE V550
/ KGW  OMEGAMON for CICS TG V550
/ KI5  OMEGAMON for IMS V550
/ KJJ  OMEGAMON for JVM V540
/ KMQ  OMEGAMON for Messaging - MQ V750
/ KM5  OMEGAMON for z/OS V550
/ KNA  NetView for z/OS Agent V621
/ KN3  OMEGAMON for Networks V550
/ KOB  OMEGAMON Enhanced 3270 User Interface V750
/ KQI  OMEGAMON for Messaging - Integration Bus V750
/ KRG  Advanced Audit for DFSMSshm Agent V260
/ KRH  Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ  Advanced Allocation Management Agent V330
/ KRK  Automated Tape Allocation Manager for z/OS Agent V330
/ KRN  Advanced Catalog Management Agent V260
/ KRV  Advanced Backup and Recovery for z/OS Agent V240
/ KRW  Tape Optimizer for z/OS Agent V220
/ KS3  OMEGAMON for Storage V540
/ KYN  ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

8. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow - Primary Option Menu..  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided as you set up the work environment. They also contain default values for all required parameters and some optional parameters. The amount of additional customization that is required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply certain site-specific values, including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

### RTE configuration profile

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of

symbolics. In addition, you must also customize the product-specific parameters listed in [Configure OMEGAMON monitoring agents and other components](#), as applicable. Optionally, you can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)). If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.

### Global configuration profile

You can assign symbolics to any of the parameters in the global profile. At a minimum, if you enabled SDA, you must assign a symbolic value to the **GBL\_HFS\_JAVA\_DIR1** parameter (for example, **&GBL\_HFS\_JAVA\_DIR1.**), or change the literal default to a site-appropriate one. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

At a minimum, provide site-appropriate resolution values for the following parameters, which apply to the hub to which the remote monitoring server connects:

- **KDS\_HUB\_TEMS\_NAME\_NODEID**
- **KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER** (if the hub uses SNA)
- **KDS\_HUB\_VTAM\_NETID** (if the hub uses SNA)
- **KDS\_HUB\_TCP\_HOST**
- **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**

### Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLa job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
4. Select 2 to edit the \$GBL\$USR global profile.

### What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

### Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSESV job. This job generates a set of jobs that extract the parameters values specified during configuration and creates the runtime members.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ===>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ===>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE
Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

Description	REQ	Job Name	Status	Date
1. Composite SUBMIT job (See JCL comments) ** or **		KCIJPSUB		More: +
2. Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3. Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4. Run product security steps	(Yes)	KCIJPSEC		
5. Update variable-named runtime mbrs	(No )	KCIJPUPV		
6. (Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7. Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8. Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9. Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10. Verify the configuration jobs	(Tip)	KCIJPIVP		
11. Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12. Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

### What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF06: Configuring a full RTE with a remote monitoring server and variables enabled

After you have set up a hub monitoring server, whether on z/OS® or on a distributed system, you can create runtime environments (RTEs) that contain remote monitoring servers that report to hub. Any agents configured in the new RTE connect to the local remote monitoring server. If you create a full RTE, subsequent RTEs can share its read-only libraries. By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs. Use the IBM-provided template @MDLRFV to create this environment with minimal configuration, or create your own from scratch.

### Before you begin

If you intend to enable the self-describing agent feature on the monitoring server, or to configure any products that require a z/OS® UNIX® System Services file system, make sure that make sure that the required Hierarchical File System (HFS) or z/OS File System has been created or set aside and that it is mounted before you begin configuration. The file system must have access to a Java™ runtime environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) on an HFS or zFS file system.

### About this task

This scenario involves five main steps using the configuration software. After you complete these steps, you may have to perform additional configuration outside the software.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same global properties is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                   ©Copyright IBM Corporation 1992-2017
                   Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

   UNIT    /  STORCLAS /
   VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  -----  -----

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/ MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                               Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
               (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
               Specify the dataset name of the PARMGEN common/global
               library for the different LPAR runtime environments (RTEs).
               Use the same dataset for managing the different LPAR RTEs.
               Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
               Specify the High-Level Qualifier (&hlq) portion of the
               PARMGEN interim staging and work libraries for this LPAR RTE:
               - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
               - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
               - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
               Specify the runtime environment (&rte_name) for this LPAR.
```

3. Provide the requested values for the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

**RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow primary options menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.  
The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPG) is displayed.

```

KCIPQPG  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                               Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.             KCIJPCFG
2.  Customize PARMGEN configuration profiles.            SYSA
3.  Create this RTE's runtime members and jobs.          $PARSE
4.  Submit batch jobs to complete PARMGEN setup.         SUBMIT
5.  Perform post configuration steps.                     POSTCFG
R   Create next RTE - Reset fields.                      New RTE

```

## Setting up the work environment

To set up the work environment for an RTE, you specify the type of RTE that is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can use the model @MDLRFV to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu.  
The first **Set up PARMGEN work environment for an RTE** panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                Quick Configuration Mode

Specify the RTE model profile to use:
==> -----
More:      +

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

- To use the IBM-provided model RTE, enter a question mark (?) on the first line and select @MDLRFV from the list of model profiles. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

- Press Enter to proceed to the next panel. The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:

                                UNIT / STORCLAS /
                                VOLSER / MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055----- / ----- /
                                HLQ of SMP/E target (TK*) datasets ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                                Work datasets UNIT name

GBL_REGION:      OM-----
                                JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel. Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

## GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

## GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

5. Press Enter to proceed to the next panel.

The **Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed. If you selected the model profile, the panel contains the values shown in the following figure. If you are configuring the RTE from scratch, the panel displays the IBM® defaults.

```
KCIP@PG3  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ Remote TEMS/Agents w/ variables_____
                                     More:      +
RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                                     (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                                     (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                                     (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                                     (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of R0 shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:  &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB: _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: &SYSNAME.:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        REMOTE__ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:    &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:      IBM_____ (1-4 char.started task prefix)
```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** which indicates that there is additional content on the panel.)

6. If your environment is not SMS-managed, specify the VSAM values. If you are using the IBM-provided model, you do need to make any other changes.

- If you are configuring the RTE from scratch, set **RTE\_TYPE** to FULL, **RTE\_SYSV\_SYSVAR\_FLAG** to Y, and **KDS\_TEMS\_TYPE** to REMOTE.

Optionally, you can customize the following parameters to use system or user-defined variables:

- **RTE\_TEMS\_NAME\_NODEID** (for example, &SYSNAME . : CMS)
- **RTE\_TCP\_PORT\_NUM** (for example, &RTE\_PORT .)
- **RTE\_VTAM\_APPLID\_PREFIX** (for example, K&SYSCLONE .)
- **RTE\_SECURITY\_CLASS** (for example, &OMEGSAF .)

- Press Enter to proceed to the next panel.

The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                                     Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp  Component or Product Name and Version
-----
/ KAH  System Automation Monitoring Agent V350
/ KC5  OMEGAMON for CICS V550
/ KDO  Tivoli Decision Support for z/OS Agent V181
/ KDS  Tivoli Enterprise Monitoring Server V630
/ KD4  ITCAM for SOA Agent V711
/ KD5  OMEGAMON for DB2 PE V550
/ KGW  OMEGAMON for CICS TG V550
/ KI5  OMEGAMON for IMS V550
/ KJJ  OMEGAMON for JVM V540
/ KMQ  OMEGAMON for Messaging - MQ V750
/ KM5  OMEGAMON for z/OS V550
/ KNA  NetView for z/OS Agent V621
/ KN3  OMEGAMON for Networks V550
/ KOB  OMEGAMON Enhanced 3270 User Interface V750
/ KQI  OMEGAMON for Messaging - Integration Bus V750
/ KRG  Advanced Audit for DFSMSshm Agent V260
/ KRH  Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ  Advanced Allocation Management Agent V330
/ KRK  Automated Tape Allocation Manager for z/OS Agent V330
/ KRN  Advanced Catalog Management Agent V260
/ KRV  Advanced Backup and Recovery for z/OS Agent V240
/ KRW  Tape Optimizer for z/OS Agent V220
/ KS3  OMEGAMON for Storage V540
/ KYN  ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

- Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
- Review the JCL to understand what the job is doing, then submit the job and return to the primary option menu.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete successfully before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided as you set up the work environment. They also contain default values for all required parameters and some optional parameters. The amount of additional customization that is required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply certain site-specific values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

### RTE configuration profile

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the RTE\_NAMESV parameter instance. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

You must also set the KDS\_HUB\_\* parameters to the appropriate values for the hub monitoring server to which this remote reports.

- **KDS\_HUB\_TEMS\_NAME\_NODEID**
- **KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER** (if the hub is enabled for SNA)
- **KDS\_HUB\_VTAM\_NETID** (if the hub is enabled for SNA)
- **KDS\_HUB\_TCP\_HOST**
- **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**

If the hub is a high-availability hub, you must set the monitoring server and agent **KDEB\_INTERFACELIST** parameters (**KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** and **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST**) to "! \*". In addition, you might need to configure one or more of the following parameters:

- If any of the products that you are configuring require any z/OS® UNIX® System Services directories running on either the Hierarchical File System (HFS) or on the zSeries File System (zFS), or if you are planning to enable the self-describing agent (SDA) feature, specify the directory to be used (**RTE\_USS\_RTEDIR**).
- To enable the SDA feature, set **KDS\_KMS\_SDA** to Y.
- To automate APF-authorization of all generated started tasks by generating the required commands for all libraries concatenated within the STEPLIB and RKANMODL DD names of the started tasks, set **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** to Y.
- To collect historical data for display in either the Tivoli® Enterprise Portal or the OMEGAMON® Enhanced 3270 user interface, data sets must be allocated to store the data. The persistent data store (PDS) that manages the collected data must be configured (see [Allocate data sets and configure maintenance for historical data](#)). It is enabled by default to collect at the agent.

You may want to configure some or all of the following features on the monitoring server: support for self-describing agents, auditing, a SOAP server. For instructions on enabling these features, see [Configure a Tivoli Enterprise Monitoring Server](#).

The parameters discussed here are not the only parameters for which you must either accept or override the default values in the configuration profile for the runtime environment. After you set the parameters shown here, be sure to go through the configuration profiles to make sure the parameter values are correct for the configuration you want. [Customizing the runtime environment configuration profile](#) discusses the values and features that are typically customized in the RTE configuration profile.

### Global configuration profile

If you set the **RTE\_USS\_RTEDIR** parameter in the RTE profile, in the global configuration profile provide a site-appropriate value for **GBL\_HFS\_JAVA\_DIR1** parameter.

You must also edit the value for the **GBL\_DSN\_CSF\_SCSFMODE0** load library parameter and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

### Variables profile

Edit the variables profile to set the resolution value of the symbolic assigned to the **RTE\_NAME** parameter in the RTE profile. The resolution value must be the RTE name.

If you enabled the self-describing agent feature (by setting **KDS\_KMS\_SDA** to Y, provide site-specific values for the following symbols:

- **RTE\_USS\_RTEDIR**
- **GBL\_HFS\_JAVA\_DIR1**

## Procedure

1. From the Workflow - Primary Option Menu, select **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** panel (KCIP@PG6) is displayed.

2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
4. Select 2 to edit the \$GBL\$USR global profile.
5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSESV job. This job generates a set of jobs that extract the parameters values specified during configuration and creates the runtime members.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status    Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

The final step in setting up the runtime environment (RTE) using the configuration software is submitting the batch jobs that were created in the preceding step. These jobs allocate the necessary data sets,

### About this task

The jobs that required to complete set up depend upon the configuration of the RTE. For example, if the RTE is enabled for variables, the KCIJPUPV job must be run to update variable-named runtime members. If the self-describing agent feature is enabled for this RTE, or any product which requires z/OS® UNIX® System Services, the KCIJPUSP and KCIJPUSJ jobs must be run.

The option menu on the **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) indicates which job are required for this RTE.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPGGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

      Description                Job/Label  Status      Date
      -----
1.  Set up/Refresh PARMGEN work environment.      KCIJPCFG
2.  Customize PARMGEN configuration profiles.      SYSA
3.  Create this RTE's runtime members and jobs.   $PARSE    Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup.  SUBMIT    Enter 4 for details.
5.  Perform post configuration steps.             POSTCFG
R   Create next RTE - Reset fields.              New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

      Description                REQ  Job Name  Status      Date
      -----
1.  Composite SUBMIT job (See JCL comments)      KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets          (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs        (Yes) KCIJPLOD
4.  Run product security steps                  (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs          (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV     (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files        (Yes) KCIJPUSJ
8.  Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps      (Yes) KCIJPLNK
10. Verify the configuration jobs                (Tip) KCIJPIVP
11. Back-up RK* product execution user libs    (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs    (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as UNIX™ System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

3. If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).
4. If the jobs complete with any errors, review the \$IVPRPT verification report in the WCONFIG library. Correct any errors and rerun any jobs that did not complete successfully. Rerun the KCIJPIVP verification job until all errors have been eliminated.

### What to do next

Complete any configuration required outside of the configuration software. To see the required steps, return to the **Workflow - Primary Option Menu** and select **Perform post configuration steps**. This option displays a set of readme files that describe the additional configuration steps that must be taken for the components and products that are configured in this RTE. For additional information, see [Completing the configuration outside the configuration software](#) and the *Planning and Configuration Guide* for each of the configuration products.

## Scenario QCF07: Creating a sharing-with-base runtime environment with a remote monitoring server

A sharing-with-base runtime environment (RTE) shares its read-only runtime libraries with other RTEs. The configuration software automatically creates the base RTE when you configure the first RTE that shares it. Sharing RTEs configured subsequently can then reference that base RTE.

### About this task

You can configure the RTE from scratch, or use the IBM-provided @MDLRSB model RTE.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same global properties is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu. The first **Set up PARMGEN work environment for an RTE** panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYSDJOBNAME=%SYSDJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. To use the IBM-provided model RTE, specify @MDLRB in the first field. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and jobcard data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

3. Press Enter to proceed to the next panel.

The **Set up PARMGEN Work Environment for an RTE (2 of 3)** panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV:  IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____ /
GBL_SYSDA_UNIT:   SYSDA____
                   Work datasets UNIT name
GBL_REGION:      OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

4. Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

5. Press Enter to proceed to the next panel.

The **Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed. If you selected the model profile, the panel contains the values shown in the following figure. If you are configuring the RTE from scratch, the panel displays the IBM® defaults.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==> Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-Base RTE w/ Remote TEMS/Agents_____
More:                +

RTE_TYPE:             SHARING_      (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
(&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
(*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:  _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        REMOTE__ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:    1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:      IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Note the **More: +** which indicates that there is additional content on the panel.)

6. If your environment is not SMS-managed, specify the VSAM values.
  - If you select the IBM-provided model, supply the high-level qualifier and the name for the base libraries:
    - **RTE\_X\_HILEV\_SHARING**
    - **RTE\_SHARE**
  - If you are setting up the RTE from scratch, customize the following parameters as indicated:
    - **RTE\_TYPE=SHARING**
    - **RTE\_X\_HILEV\_SHARING=base\_rte\_hilev**
    - **RTE\_SHARE=base\_rte\_name**
    - **KDS\_TEMS\_TYPE=REMOTE**

Optionally, configure the following:

- **RTE\_TEMS\_NAME\_NODEID**
- **RTE\_TCP\_PORT\_NUM**

- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB

If you have already created another sharing-with-base RTE that is set to load the shared base libraries, best practice is to set **RTE\_LOAD\_SHARED\_LIBS** to N to avoid loading the libraries multiple times.

7. Press Enter to proceed to the next panel.

The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                                     Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KD0 Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

8. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow - Primary Option Menu.  
The KCIJPCFG jobs submits a second job, KCIJPPRF. Wait for both jobs to complete successfully before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

### RTE configuration profile

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. In addition, you must also customize the product-specific parameters listed in [Configure OMEGAMON monitoring agents and other components](#), as applicable. Optionally, you can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)). If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.

### Global configuration profile

You can assign symbolics to any of the parameters in the global profile. At a minimum, if you enabled SDA, you must assign a symbolic value to the **GBL\_HFS\_JAVA\_DIR1** parameter (for example, &GBL\_HFS\_JAVA\_DIR1.), or change the literal default to a site-appropriate one. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
4. Select 2 to edit the \$GBL\$USR global profile.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

## Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1

1. Create runtime members/jobs in all WK* libs.  $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

The final step in setting up the runtime environment (RTE) using the configuration software is submitting the batch jobs that were created in the preceding step. These jobs allocate the necessary data sets,

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

	Description	REQ	Job Name	Status	Date
				More:	+
1.	Composite SUBMIT job (See JCL comments) ** OR **		KCIJPSUB		
2.	Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3.	Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4.	Run product security steps	(Yes)	KCIJPSEC		
5.	Update variable-named runtime mbrs	(No )	KCIJPUPV		
6.	(Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7.	Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8.	Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9.	Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10.	Verify the configuration jobs	(Tip)	KCIJPIVP		
11.	Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12.	Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).
- If the jobs complete with any errors, review the \$IVPRPT verification report in the WCONFIG library. Correct any errors and rerun any jobs that did not complete successfully. Rerun the KCIJPIVP verification job until all errors have been eliminated.

## What to do next

Complete any configuration required outside of the configuration software. To see the required steps, return to the **Workflow - Primary Option Menu** and select **Perform post configuration steps**. This option displays a set of readme files that describe the additional configuration steps that must be taken for the components and products that are configured in this RTE. For additional information, see [Completing the configuration outside the configuration software](#) and the *Planning and Configuration Guide* for each of the configuration products.

## Scenario QCF08: Creating a sharing-with-SMP/E runtime environment with a remote monitoring server

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated.

### About this task

You can use the @MDLRSS model profile to configure this RTE, or you can configure it from scratch.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same global properties is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  _____ /  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the primary options menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                               Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.             KCIJPCFG
2.  Customize PARMGEN configuration profiles.            SYSA
3.  Create this RTE's runtime members and jobs.         $PARSE
4.  Submit batch jobs to complete PARMGEN setup.        SUBMIT
5.  Perform post configuration steps.                   POSTCFG
R   Create next RTE - Reset fields.                    New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. To use the IBM-provided model RTE, specify @MDLRSS in the first field. To create the RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

3. Press Enter to proceed to the next panel.

The **Set up PARMGEN Work Environment for an RTE (2 of 3)** panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV:  IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____ /
GBL_SYSDA_UNIT:   SYSDA____
                   Work datasets UNIT name
GBL_REGION:       OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

4. Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

5. Press Enter to proceed to the next panel.

The **Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed. If you selected the model profile, the panel contains the values shown in the following figure. If you are configuring the RTE from scratch, the panel displays the IBM® defaults.



- **RTE\_X\_SECURITY\_EXIT\_LIB**

7. Press Enter to proceed to the next panel.  
The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                                     Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

8. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow - Primary Option Menu.  
The KCIJPCFG jobs submits a second job, KCIJPPRF. Wait for both jobs to complete successfully before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided as you set up the work environment. They also contain default values for all required parameters and some optional parameters. The amount of additional customization that is required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply certain site-specific values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

### About this task

In the RTE configuration profile, at a minimum you must set the KDS\_HUB\_\* parameters to the appropriate values for the hub monitoring server to which this remote reports.

- **KDS\_HUB\_TEMS\_NAME\_NODEID**
- **KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER** (if the hub is enabled for SNA)
- **KDS\_HUB\_VTAM\_NETID** (if the hub is enabled for SNA)

- **KDS\_HUB\_TCP\_HOST**
- **KDS\_HUB\_TCP\_PIPE\_PORT\_NUM**

If the hub is an HA hub, you must set the monitoring server and agent **KDEB\_INTERFACELIST** parameters (**KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** and **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST**) to "!" \*.  
In addition, you might need to configure one or more of the following parameters:

- If any of the products that you are configuring require any z/OS® UNIX® System Services directories running on either the Hierarchical File System (HFS) or on the zSeries File System (zFS), or if you are planning to enable the self-describing agent (SDA) feature, specify the directory to be used (**RTE\_USS\_RTEDIR**).
- To enable the SDA feature, set **KDS\_KMS\_SDA** to Y.
- To automate APF-authorization of all generated started tasks by generating the required commands for all libraries concatenated within the STEPLIB and RKANMODL DD names of the started tasks, set **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** to Y.
- To collect historical data for display in either the Tivoli® Enterprise Portal or the OMEGAMON® Enhanced 3270 user interface, data sets must be allocated to store the data. The persistent datastore (PDS) that manages the collected data must be configured (see [Allocate data sets and configure maintenance for historical data](#)). It is enabled by default to collect at the agent.

You may want to configure some or all of the following features on the monitoring server: support for self-describing agents, auditing, a SOAP server. For instructions on enabling these features, see [Configure a Tivoli Enterprise Monitoring Server](#).

The parameters discussed here are not the only parameters for which you must either accept or override the default values in the configuration profile for the runtime environment. After you set the parameters shown here, be sure to go through the configuration profiles to make sure the parameter values are correct for the configuration you want. [Customizing the runtime environment configuration profile](#) discusses the values and features that are typically customized in the RTE configuration profile.

In the global configuration profile, if you set the **RTE\_USS\_RTEDIR**, you must provide a site-appropriate value for **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the Command line and press **Enter** to review the composite KCIJPDLa job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
4. Select 2 to edit the \$GBL\$USR global profile.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

## Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ===>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1

1. Create runtime members/jobs in all WK* libs.  $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

The final step in setting up the runtime environment (RTE) using the configuration software is submitting the batch jobs that were created in the preceding step. These jobs allocate the necessary data sets,

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ===>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

	Description	REQ	Job Name	Status	Date
				More:	+
1.	Composite SUBMIT job (See JCL comments) ** or **		KCIJPSUB		
2.	Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3.	Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4.	Run product security steps	(Yes)	KCIJPSEC		
5.	Update variable-named runtime mbrs	(No )	KCIJPUPV		
6.	(Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7.	Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8.	Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9.	Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10.	Verify the configuration jobs	(Tip)	KCIJPIVP		
11.	Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12.	Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).
- If the jobs complete with any errors, review the \$IVPRPT verification report in the WCONFIG library. Correct any errors and rerun any jobs that did not complete successfully. Rerun the KCIJPIVP verification job until all errors have been eliminated.

### What to do next

Complete any configuration required outside of the configuration software. To see the required steps, return to the **Workflow - Primary Option Menu** and select **Perform post configuration steps**. This option displays a set of readme files that describe the additional configuration steps that must be taken for the components and products that are configured in this RTE. For additional information, see [Completing the configuration outside the configuration software](#) and the *Planning and Configuration Guide* for each of the configuration products.

## Scenario QCF09: Creating a sharing-with-SMP/E runtime environment with a remote monitoring server and variables enabled

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs. The remote monitoring server in this RTE must be configured to report to a hub monitoring server.

### About this task

You can use the @MDLRSSV model profile to configure this RTE, or you can configure it from scratch.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same features is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ===>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ===>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  -----  -----

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.          POSTCFG
R   Create next RTE - Reset fields.           New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu. The first **Set up PARMGEN work environment for an RTE** panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. To use the IBM-provided model RTE, specify \$MDKHF in the first field. To create an RTE from scratch, leave the field blank. As appropriate, specify the Install Job Generator output library and jobcard data.

### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

3. Press Enter to proceed to the next panel.

The **Set up PARMGEN Work Environment for an RTE (2 of 3)** panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV:  IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____ /
GBL_SYSDA_UNIT:   SYSDA____
                   Work datasets UNIT name
GBL_REGION:      0M_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

4. Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

5. Press Enter to proceed to the next panel.

The **Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed.

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----  
 Command ==> Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.  
 Press F1=Help for more information.

More: +

RTE\_DESCRIPTION:       Sharing-w/-SMP RTE w/ Remote/Agents w/ vars.\_\_\_\_

RTE\_TYPE:               SHARING\_       (Full, Sharing)

RTE\_HILEV:              TDITN.IDTST\_\_\_\_\_ (ex.: TDITN.IDTST  
                           (&hlq portion of Non-VSAM RK\* HLQ=&hlq.&rte\_name)

RTE\_VSAM\_HILEV:        TDITN.IDTST\_\_\_\_\_ (ex.: TDITN.IDTST  
                           (&hlq portion of VSAM RK\* HLQ=&hlq.&rte\_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:

RTE\_SMS\_UNIT:           \_\_\_\_\_ (Non-VSAM disk UNIT type)

RTE\_SMS\_VOLUME:        \_\_\_\_\_ (Non-VSAM disk VOLSER)

RTE\_SMS\_MGMTCLAS:      \_\_\_\_\_ (Non-VSAM disk MGMTCLAS)

RTE\_SMS\_STORCLAS:      \_\_\_\_\_ (Non-VSAM disk STORCLAS)

RTE\_SMS\_VSAM\_VOLUME:   \_\_\_\_\_ (VSAM disk VOLSER)

RTE\_SMS\_VSAM\_MGMTCLAS: \_\_\_\_\_ (VSAM disk MGMTCLAS)

RTE\_SMS\_VSAM\_STORCLAS: \_\_\_\_\_ (VSAM disk STORCLAS)

RTE\_SMS\_PDSE\_FLAG:     Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE\_TYPE is SHARING:

RTE\_X\_HILEV\_SHARING:   \_\_\_\_\_ (ex.: TDITN.IDTST)  
                           (&hlq portion of shared RTE's HLQ=&hlq.&rte\_share)

RTE\_SHARE: SMP\_\_\_\_\_ ("SMP" value or \*&rte\_share)  
                           (\*&rte\_share portion of shared RTE's HLQ=&hlq.&rte\_share)

RTE\_LOAD\_SHARED\_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:

RTE\_SYSV\_SYSVAR\_FLAG: Y   (Y, N)   (System/User variables flag)

Security settings:

RTE\_SECURITY\_USER\_LOGON: NONE\_\_\_\_ (RACF, ACF2, TSS, NAM, None)

RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG: Y (Y, N) (Fold password to upper case)

RTE\_SECURITY\_CLASS:     &OMEGSAF.\_\_\_\_\_

RTE\_X\_SECURITY\_EXIT\_LIB: TDITN.IDTST.DEMO.RKANSAMU\_\_\_\_\_

GBL\_DSN\_ACF2\_MACLIB:   \_\_\_\_\_

GBL\_DSN\_ACF2\_MACLIB1:  \_\_\_\_\_

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:

RTE\_TEMS\_CONFIGURED\_FLAG: Y   (Y, N) (Configure TEMS in this RTE)

RTE\_TEMS\_NAME\_NODEID: &SYSNAME.:CMS\_\_\_\_\_ (e.g., DEMO:cms)))

KDS\_TEMS\_TYPE:          REMOTE\_\_ (Hub, Remote)

KDS\_TEMS\_HA\_TYPE:       \_\_       (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:

RTE\_TCP\_PORT\_NUM:      &RTE\_PORT.\_\_\_\_\_ (1-65535 port number)

RTE\_VTAM\_APPLID\_PREFIX: K&SYSCLONE.\_\_\_\_\_ (1-4 char.VTAM APPLID prefix)

RTE\_STC\_PREFIX:        IBM\_\_\_\_\_ (1-4 char.started task prefix)

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters.  
 (Look for the **More: +** which indicates that there is additional content on the panel.)

6. If this RTE is not SMS-managed, provide the VSAM values.

- If you are using the IBM-provided model, you do not need to make any other changes.
  - **RTE\_X\_HILEV\_SHARING**
  - **RTE\_SHARE**

Any other changes are optional.

- If you are setting up the RTE from scratch, specify the following values.
  - **RTE\_TYPE=SHARING**
  - **RTE\_SHARE= SMP**
  - **KDS\_TEMS\_TYPE=REMOTE**
  - **RTE\_SYSV\_SYSVAR\_FLAG=Y**

Optionally, specify variables for the following parameters:

- **RTE\_TEMS\_NAME\_NODEID** (for example, &SYSNAME.:CMS)

- **RTE\_TCP\_PORT\_NUM** (for example, &RTE\_PORT.)
  - **RTE\_VTAM\_APPLID\_PREFIX** (for example, K&SYSCLONE.)
  - **RTE\_SECURITY\_CLASS** (for example, &OMEGSAF.)
7. Press Enter to proceed to the next panel.  
The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product library.

```

KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                                     Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data

```

8. Deselect any products that you do not want to include in the RTE, then change **Confirm ==> N** to **Y**, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
9. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like). You must also enable and configure any features you want to exploit (such as event forwarding or support for self-describing agents). In this scenario, you must also edit the variables configuration profile %GBL\_USER\_JCL%.(%RTE\_NAME%) to specify resolution values for any user-defined variables.

## About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the RTE\_NAMESV parameter instance. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. In addition, you must also customize the product-specific parameters listed in [Configure OMEGAMON monitoring agents and other components](#), as applicable. Optionally, you can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).

In the global profile, you can assign symbolics to any of the parameters. At a minimum, you must assign a symbolic value to the GBL\_HFS\_JAVA\_DIR1 parameter, for example, &GBL\_HFS\_JAVA\_DIR1. or change the literal default to a site-appropriate one. You must also edit the value for load library parameters GBL\_DSN\_CSF\_SCSFMODO and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- RTE\_NAME
- RTE\_HILEV
- RTE\_VSAM\_HILEV
- RTE\_X\_HILEV\_SHARING
- RTE\_SHARE
- Kpp\_\*\_VTAM\_APPL\_\*

In the global profiles, these are the following parameters:

- GBL\_DSN\_DB2\_\*
- GBL\_DSN\_IMS\_\*
- GBL\_DSN\_CICS\_CTG\_DLL
- GBL\_DSN\_WMQ\_\*
- GBL\_DSN\_CSF\_SCSFMODO
- GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA

In the variables profile (%GBL\_USER\_JCL%.%RTE\_NAME%), if you want to use the self-describing agent feature, set the resolution value for KDS\_KMS\_SDA to Y, and provide site-specific values for the following symbols:

- RTE\_USS\_RTEDIR
- GBL\_HFS\_JAVA\_DIR1

In addition, provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## Procedure

1. To edit the configuration profiles, select Customize PARMGEN configuration profiles from the Workflow. The Customize PARMGEN Configuration Profile Members panel is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select each Required profile and make the appropriate edits.
4. Press F3 to save the changes, then press F3 to return to the main Workflow panel.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option

4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSESV job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

- From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
   reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
   WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

- Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
- If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - Type 1s in pane KCIP@PR1, and then go through the validation report.
  - Correct the parameter values.
  - Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

The final step in setting up the runtime environment (RTE) using the configuration software is submitting the batch jobs that were created in the preceding step. These jobs allocate the necessary data sets.

### Procedure

- From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.          POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
   ** OR **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report in the WCONFIG library. Correct any errors and rerun any jobs that did not complete successfully. Rerun the KCIJPIVP verification job until all errors have been eliminated.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside of the configuration software. To see the required steps, return to the Workflow - Primary Option Menu and select **Perform post configuration steps**. This option displays a set of readme files that describe the additional configuration steps that must be taken for the components and products that are configured in this RTE. For additional information, see [Completing the configuration outside the configuration software](#) and the *Planning and Configuration Guide* for each of the configured products.

# Scenario QCF10: Configuring a sharing-with-SMP/E runtime environment with a hub monitoring server

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. It is also good for a proof-of-concept configuration. Because the RTE contains a hub monitoring server, it can operate by itself and show data immediately. However, you do not want this type of RTE in a production environment, because you do not want maintenance to be applied without testing.

You can use the IBM-provided model profile @MDLHSS to configure this RTE or you can configure it from scratch.

## Before you begin

In the model profile, the self-describing agent feature (SDA) is enabled by default. SDA requires that a z/OS® UNIX® System Services Hierarchical File System (HFS) or zSeries File System (zFS) be created or set aside for storing the SDA data files. The file system must be mounted before the RTE is configured and it must have access to a Java™ runtime environment running under IBM®'s 31-bit or 64-bit Java™ SDK Version 5 (or higher) on an HFS or zFS file system. If you intend to leave SDA enabled, ensure that the file system is available.

## About this task

If you do not want to maintain this RTE after you have completed testing or proof of concept, you can delete the RTE or reconfigure it to a different sharing type. You can also reconfigure the monitoring server from a hub to a remote.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the RTEs that share the same global properties is stored, and provide the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

## Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                                HLQ of SMP/E target (TK*) datasets  -----  -----

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL: _____
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.
```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: `%RTE_PLIB_HILEV%.%RTE_NAME%.WCONFIG(%RTE_NAME%)`.

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the primary options menu.  
The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.
```

5. Press Enter.  
The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.
```

Description	Job/Label	Status	Date
1. Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2. Customize PARMGEN configuration profiles.	SYSA		
3. Create this RTE's runtime members and jobs.	\$PARSE		
4. Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5. Perform post configuration steps.	POSTCFG		
R Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the primary options menu.  
The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +
Specify the RTE model profile to use:
==> -----
- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)

```

2. To use the IBM-provided model RTE, type ? in the first field and select @MDLHSS from the list of model profiles that is displayed. When you select the model, you are returned to the set up panel. To create the RTE from scratch, leave the field blank.

3. As appropriate, specify the Install Job Generator output library and job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.

The **Set up PARMGEN Work Environment for an RTE (2 of 3)** panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: IBM.TARGET.ITM63055----- / ----- /
                  HLQ of SMP/E target (TK*) datasets ----- / -----

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:     OM-----
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

5. Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

### GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

### GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/ M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.

**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed. If you selected the model profile, the panel contains the values shown in the following figure. If you are configuring the RTE from scratch, the panel displays the IBM® defaults.

```
KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-SMP RTE w/ Static Hub TEMS/Agents____ More:  +
RTE_TYPE:             SHARING_      (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y      (Y, N)  (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP _____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y      (Y, N)  (Is RTE updater of R0 shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N      (Y, N)  (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y      (Y, N)  (Fold password to upper case)
RTE_SECURITY_CLASS:  _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y      (Y, N)  (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __      (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:    1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:      IBM_____ (1-4 char.started task prefix)
```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Note the **More: +** which indicates that there is additional content on the panel.)

7. If your environment is not SMS-managed, specify the VSAM values.

- If you are using the IBM-provided model, you do not need to make any further changes unless you want to specify values that meet site-specific requirements, such as prefixes for started tasks.
- If you are setting up the RTE from scratch, customize the following parameters as indicated:
  - **RTE\_TYPE=SHARING**
  - **RTE\_SHARE=SMP**

Optionally, you can customize the following parameters:

- **RTE\_TEMS\_NAME\_NODEID**
- **RTE\_TCP\_PORT\_NUM**
- **RTE\_VTAM\_APPLID\_PREFIX**
- **RTE\_STC\_PREFIX**
- **RTE\_X\_SECURITY\_EXIT\_LIB**

8. Press Enter to proceed to the next panel.

The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                                     Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSShsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSShsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Select additional products, or deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow - Primary Option Menu.  
The KCIJPCFG jobs submits a second job, KCIJPPRF. Wait for both jobs to complete successfully before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided as you set up the work environment. They also contain default values for all required parameters and some optional parameters. The amount of additional customization that is required depends upon how much your environment differs from the model or product-provided defaults. At a minimum, you must supply certain site-specific values. You must also enable and configure any features you want to exploit. To save time and effort, you can run the KCIJPDn jobs to automatically pre-populate the configuration files.

### About this task

If you have IBM® Discovery Library Adapter for z/OS® (DLA) installed in an LPAR that the PARMGEN configuration jobs can access, you can use the KCIJPDn jobs to automatically pre-populate the LPAR RTE user profiles for some product parameters customized in the user profiles. This reduces the time and effort in creating accurate configuration files. See [Preparing the configuration profiles by running the KCIJPDn jobs](#) for details.

In the RTE configuration profile, you might need to configure one or more of the following parameters:

- Specify the z/OS® UNIX® System Services directory to be used for SDA data (**RTE\_USS\_RTEDIR**).
- To automate APF-authorization of all generated started tasks by generating the required commands for all libraries concatenated within the STEPLIB and RKANMODL DD names of the started tasks, set **RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG** to Y.
- To collect historical data for display in either the Tivoli® Enterprise Portal or the OMEGAMON® Enhanced 3270 user interface, data sets are allocated to store the data. You might need to change the product-specific number of sequential files allocated to the group for each product (**Kpp\_PDS\_FILE\_COUNT**) and the product-specific number of cylinders that will be divided among the files (**Kpp\_PD\_CYL**).

The parameters discussed here are not the only parameters for which you must either accept or override the default values in the configuration profile for the runtime environment. After you set the parameters shown here, review the configuration profiles to ensure the parameter values are correct for the configuration you want. [Customizing the runtime environment configuration profile](#) discusses the values and features that are typically customized in the RTE configuration profile.

In the global configuration profile, you must provide a site-appropriate value for the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

### Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDn job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDn jobs, see [Preparing the configuration profiles by running the KCIJPDn jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
4. Select 2 to edit the \$GBL\$USR global profile.

### What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

- From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name  Status    Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

- Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
- If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - Type 1s in pane KCIP@PR1, and then go through the validation report.
  - Correct the parameter values.
  - Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

- From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status    Date
-----
1. Set up/Refresh PARMGEN work environment.    KCIJPCFG
2. Customize PARMGEN configuration profiles.   SYSA
3. Create this RTE's runtime members and jobs. $PARSE     Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT     Enter 4 for details.
5. Perform post configuration steps.          POSTCFG
R Create next RTE - Reset fields.             New RTE
Press F1=Help for more information. Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

Description	REQ	Job Name	Status	Date
1. Composite SUBMIT job (See JCL comments) ** or **		KCIJPSUB		More: +
2. Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3. Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4. Run product security steps	(Yes)	KCIJPSEC		
5. Update variable-named runtime mbrs	(No )	KCIJPUPV		
6. (Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7. Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8. Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9. Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10. Verify the configuration jobs	(Tip)	KCIJPIVP		
11. Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12. Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. Any job marked as REQ AUTH/Yes, require authorization to run. In the case of job 8, "Copy runtime mbrs to system libs," authority is required to update system libraries. If you don't have that authority you can have someone else submit the job or you can create your own version of the system libraries: PROCLIB for started tasks, VTAMLIST for major nodes, and VTAMLIB for the LU62 table. Other jobs, such as z/OS® UNIX® System Services system setup, might also require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

Make sure all jobs listed as "REQ=(YES)" run to proper conclusion.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF12: Creating a sharing-with-base runtime environment with a hub monitoring server

A sharing-with-base runtime environment (RTE) shares its read-only runtime libraries with other RTEs. The configuration software automatically creates the base RTE when you configure the first RTE that shares it. Sharing RTEs configured subsequently can then reference that base RTE.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **@MDLHSB** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
  - To create an RTE from scratch, leave the field blank.
3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.  
 The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:     0M_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.
  
```

5. Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/ M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.  
**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.



- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB
- RTE\_SECURITY\_CLASS

8. Press Enter to proceed to the next panel.

The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                               Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
 / KAH System Automation Monitoring Agent V350
 / KC5 OMEGAMON for CICS V550
 / KDO Tivoli Decision Support for z/OS Agent V181
 / KDS Tivoli Enterprise Monitoring Server V630
 / KD4 ITCAM for SOA Agent V711
 / KD5 OMEGAMON for DB2 PE V550
 / KGW OMEGAMON for CICS TG V550
 / KI5 OMEGAMON for IMS V550
 / KJJ OMEGAMON for JVM V540
 / KMQ OMEGAMON for Messaging - MQ V750
 / KM5 OMEGAMON for z/OS V550
 / KNA NetView for z/OS Agent V621
 / KN3 OMEGAMON for Networks V550
 / KOB OMEGAMON Enhanced 3270 User Interface V750
 / KQI OMEGAMON for Messaging - Integration Bus V750
 / KRG Advanced Audit for DFSMSShm Agent V260
 / KRH Advanced Reporting and Management for DFSMSShm Agent V260
 / KRJ Advanced Allocation Management Agent V330
 / KRK Automated Tape Allocation Manager for z/OS Agent V330
 / KRN Advanced Catalog Management Agent V260
 / KRV Advanced Backup and Recovery for z/OS Agent V240
 / KRW Tape Optimizer for z/OS Agent V220
 / KS3 OMEGAMON for Storage V540
 / KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the Command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLn jobs, see [Preparing the configuration profiles by running the KCIJPDLn jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1

1. Create runtime members/jobs in all WK* libs. $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIQPGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

       Description                               Job/Label  Status      Date
       -----
1.  Set up/Refresh PARMGEN work environment.     KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs.  $PARSE    Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.             New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

	Description	REQ	Job Name	Status	Date
				More:	+
1.	Composite SUBMIT job (See JCL comments)		KCIJPSUB		
	** OR **				
2.	Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3.	Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4.	Run product security steps	(Yes)	KCIJPSEC		
5.	Update variable-named runtime mbrs	(No )	KCIJPUPV		
6.	(Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7.	Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8.	Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9.	Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10.	Verify the configuration jobs	(Tip)	KCIJPIVP		
11.	Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12.	Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

### What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF13: Creating a full runtime environment with agents only and variables enabled

There is no TEMS configured in this local RTE because this RTE model assumes that a TEMS (Hub or Remote TEMS) is already deployed in another RTE (if the TEMS is running on z/OS platform), or is already deployed in another non-z/OS platform (z/Linux, Windows, or AIX machines). By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:    +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **\$MDLAFV** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
  - To create an RTE from scratch, leave the field blank.
3. As appropriate, specify the job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.  
The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```
KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:      0M_____
                  JCL REGION (specify K/M suffix)
```

Note: Type BACK to go back one panel. Type UTIL to access utility menu.

5. Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

#### GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

#### GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.  
**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ Agents only-no local TEMS w/ vars.____
More:                +

RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                        (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                        (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                        (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                        (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.CDLID.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: N (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, no further change is required.
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=FULL**
      - **RTE\_SYSV\_SYSVAR\_FLAG=Y**
      - **RTE\_TEMS\_CONFIGURED\_FLAG=N**

**Note:** **RTE\_TEMS\_CONFIGURED\_FLAG=N** means there is no TEMS configured in the RTE, and KDS\* parameters are ignored.

- You can change the following parameters to meet site-specific requirements:
    - RTE\_TEMS\_NAME\_NODEID
    - RTE\_TCP\_PORT\_NUM
    - RTE\_VTAM\_APPLID\_PREFIX
    - RTE\_STC\_PREFIX
    - RTE\_X\_SECURITY\_EXIT\_LIB
    - RTE\_SECURITY\_CLASS
8. Press Enter to proceed to the next panel.  
The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected except for KDS.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
- KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPIPE and SNA defaults, and the

like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS™ rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE0**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLa job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - Configure the components in this RTE to connect to a TEMS. Provide values to the following parameters to specify the communication protocols, ports, TEMS host, TEMS node, TEMS VTAM, and agent's local VTAM and logon information.
    - **Kpp\_AGT\_COMM\_PROTOCOLn**: Specify the communication protocols in priority sequence, for example, IPPIPE, and SNA.
    - **Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**: Specify protocol port numbers for the agents to connect to TEMS.
    - **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG**: Because the primary TEMS that this agents connect to is configured on another RTE, or running on a non-z/OS platform, specify N to this parameter.
    - **Kpp\_TEMS\_NAME\_NODEID**: Specify the node ID of the non-local primary TEMS that the agents connect to, for example, SYSA:CMS.
    - **Kpp\_TEMS\_TCP\_HOST**: Specify the host of the TEMS that the agents connect to, for example, SYSA.
    - **Kpp\_AGT\_TCP\_HOST**: Specify the agent local TCP/IP information.

- **Kpp\_TEMS\_VTAM\_\***: Specify the primary TEMS VTAM information.
  - **Kpp\_AGT\_VTAM\_\***: Specify the agent's local VTAM information and APPLIDs.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.
  5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1

1. Create runtime members/jobs in all WK* libs. $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.

The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.

3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIQPGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE    Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5. Perform post configuration steps.          POSTCFG
R Create next RTE - Reset fields.            New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
   ** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs    (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSF
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More: +

Press F1=Help for more information.  Type UTIL to access utility menu.
```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

3. If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.

For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF14: Creating a full runtime environment with agents only

There is no TEMS configured in this local RTE because this RTE model assumes that a TEMS (Hub or Remote TEMS) is already deployed in another RTE (if the TEMS is running on z/OS platform), or is already deployed in another non-z/OS platform (z/Linux, Windows, or AIX machines). You can use an IBM-provided model to create the RTE and do minimal customization to get up and running, or create the RTE from scratch and customize to your exact requirements.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs.  $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.           New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **@MDLAF** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
  - To create an RTE from scratch, leave the field blank.
3. As appropriate, specify the job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.  
The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```
KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:      0M_____
                  JCL REGION (specify K/M suffix)
```

Note: Type BACK to go back one panel. Type UTIL to access utility menu.

5. Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

#### GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

#### GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.  
**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Full RTE w/ Agents only-no local TEMS_____
  More:      +
RTE_TYPE:             FULL_____ (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.CDLID.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: N (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     -- (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:    1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:      IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, no further change is required.
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=FULL**
      - **RTE\_TEMS\_CONFIGURED\_FLAG=N**

**Note:** **RTE\_TEMS\_CONFIGURED\_FLAG=N** means there is no TEMS configured in the RTE, and KDS\* parameters are ignored.

- You can change the following parameters to meet site-specific requirements:

- RTE\_TEMS\_NAME\_NODEID
- RTE\_TCP\_PORT\_NUM
- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB
- RTE\_SECURITY\_CLASS

8. Press Enter to proceed to the next panel.

The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. Except for KDS, KM5, and KS3, all the products that are installed in the target libraries are listed and selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
_ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
_ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSShsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSShsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
_ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPIPE and SNA defaults, and the

like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - Configure the components in this RTE to connect to a TEMS. Provide values to the following parameters to specify the communication protocols, ports, TEMS host, TEMS node, TEMS VTAM, and agent's local VTAM and logon information.
    - **Kpp\_AGT\_COMM\_PROTOCOLn**: Specify the communication protocols in priority sequence, for example, IPPIPE, and SNA.
    - **Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**: Specify protocol port numbers for the agents to connect to TEMS.
    - **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG**: Because the primary TEMS that this agents connect to is configured on another RTE, or running on a non-z/OS platform, specify N to this parameter.
    - **Kpp\_TEMS\_NAME\_NODEID**: Specify the node ID of the non-local primary TEMS that the agents connect to, for example, SYSA:CMS.
    - **Kpp\_TEMS\_TCP\_HOST**: Specify the host of the TEMS that the agents connect to, for example, SYSA.
    - **Kpp\_AGT\_TCP\_HOST**: Specify the agent local TCP/IP information.
    - **Kpp\_TEMS\_VTAM\_\***: Specify the primary TEMS VTAM information.
    - **Kpp\_AGT\_VTAM\_\***: Specify the agent's local VTAM information and APPLIDs.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
   reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
   WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1
1. Create runtime members/jobs in all WK* libs. $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

                Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.             KCIJPCFG
2.  Customize PARMGEN configuration profiles.            SYSA
3.  Create this RTE's runtime members and jobs.          $PARSE     Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup.         SUBMIT     Enter 4 for details.
5.  Perform post configuration steps.                    POSTCFG
R   Create next RTE - Reset fields.                     New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

                Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)             KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets                 (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs              (Yes) KCIJPLOD
4.  Run product security steps                         (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs                 (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV            (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files               (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution)     KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps             (Yes) KCIJPLNK
10. Verify the configuration jobs                      (Tip) KCIJPIVP
11. Back-up RK* product execution user libs           (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs           (Yes) Enter 12 for details.

                More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## Scenario QCF15: Creating a sharing-with-base runtime environment with agents only and variables enabled

A sharing-with-base runtime environment (RTE) shares its read-only runtime libraries with other RTEs. The configuration software automatically creates the base RTE when you configure the first RTE that shares it. Sharing RTEs configured subsequently can then reference that base RTE. There is no TEMS configured in this local RTE because this RTE model assumes that a TEMS (Hub or Remote TEMS) is already deployed in another RTE (if the TEMS is running on z/OS platform), or is already deployed in another non-z/OS platform (z/Linux, Windows, or AIX machines). By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
                z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
You have asked to configure a new RTE profile.  
  
Proceed to configure a new RTE profile.  
  
Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>  
  
Quick Configuration Mode  
  
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA  
  
Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode

                                More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

2. Choose a method to create the RTE:

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **\$MDLASBV** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
- To create an RTE from scratch, leave the field blank.

3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:

                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:   SYSDA___
                   Work datasets UNIT name

GBL_REGION:      OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

- Press Enter to proceed to the next panel.

**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-Base RTE Agents-no local TEMS w/vars.
  More:      +
RTE_TYPE:             SHARING_          (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y   (Y, N)   (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y   (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.CDLID.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: N   (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:         HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:      --   (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SYSV\_SYSVAR\_FLAG=Y**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
      - **RTE\_TEMS\_CONFIGURED\_FLAG=N**

**Note:** RTE\_TEMS\_CONFIGURED\_FLAG=N means there is no TEMS configured in the RTE, and KDS\* parameters are ignored.

- You can change the following parameters to meet site-specific requirements:
    - RTE\_TEMS\_NAME\_NODEID
    - RTE\_TCP\_PORT\_NUM
    - RTE\_VTAM\_APPLID\_PREFIX
    - RTE\_STC\_PREFIX
    - RTE\_X\_SECURITY\_EXIT\_LIB
    - RTE\_SECURITY\_CLASS
8. Press Enter to proceed to the next panel.  
The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. Except for KDS, KM5, and KS3, all the products that are installed in the target libraries are listed and selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
_ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
_ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
_ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

### About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS™ rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

### Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - Configure the components in this RTE to connect to a TEMS. Provide values to the following parameters to specify the communication protocols, ports, TEMS host, TEMS node, TEMS VTAM, and agent's local VTAM and logon information.
    - **Kpp\_AGT\_COMM\_PROTOCOLn**: Specify the communication protocols in priority sequence, for example, IPPIPE, and SNA.
    - **Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**: Specify protocol port numbers for the agents to connect to TEMS.
    - **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG**: Because the primary TEMS that this agents connect to is configured on another RTE, or running on a non-z/OS platform, specify N to this parameter.

- **Kpp\_TEMS\_NAME\_NODEID**: Specify the node ID of the non-local primary TEMS that the agents connect to, for example, SYSA:CMS.
  - **Kpp\_TEMS\_TCP\_HOST**: Specify the host of the TEMS that the agents connect to, for example, SYSA.
  - **Kpp\_AGT\_TCP\_HOST**: Specify the agent local TCP/IP information.
  - **Kpp\_TEMS\_VTAM\_\***: Specify the primary TEMS VTAM information.
  - **Kpp\_AGT\_VTAM\_\***: Specify the agent's local VTAM information and APPLIDs.
- If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.
  5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1

1. Create runtime members/jobs in all WK* libs.  $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

	Description	REQ	Job Name	Status	Date
				More:	+
1.	Composite SUBMIT job (See JCL comments) ** or **		KCIJPSUB		
2.	Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3.	Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4.	Run product security steps	(Yes)	KCIJPSEC		
5.	Update variable-named runtime mbrs	(No )	KCIJPUPV		
6.	(Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7.	Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8.	Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9.	Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10.	Verify the configuration jobs	(Tip)	KCIJPIVP		
11.	Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12.	Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

### What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF16: Creating a Sharing-with-base runtime environment with agents only

A sharing-with-base runtime environment (RTE) shares its read-only runtime libraries with other RTEs. The configuration software automatically creates the base RTE when you configure the first RTE that shares it. Sharing RTEs configured subsequently can then reference that base RTE. There is no TEMS configured in this local RTE because this RTE model assumes that a TEMS (Hub or Remote TEMS) is already deployed in another RTE (if the TEMS is running on z/OS platform), or is already deployed in another non-z/OS platform (z/Linux, Windows, or AIX machines).

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV:  _____ /  _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **@MDLASB** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
  - To create an RTE from scratch, leave the field blank.
3. As appropriate, specify the job card data.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.  
The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```
KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:     0M_____
                  JCL REGION (specify K/M suffix)
```

Note: Type BACK to go back one panel. Type UTIL to access utility menu.

5. Review the values on the panel and override them as necessary.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

#### GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

#### GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.  
**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-Base RTE w/ Agents only-no local TEMS
  More:      +
RTE_TYPE:             SHARING_          (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:         _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:    Y      (Y, N)  (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:            _____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y      (Y, N)  (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N      (Y, N)  (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y    (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:    _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:   _____
GBL_DSN_ACF2_MACLIB1:  _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: N          (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:          HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:      --          (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:      1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:        IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SYSV\_SYSVAR\_FLAG=N**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
      - **RTE\_TEMS\_CONFIGURED\_FLAG=N**

**Note:** RTE\_TEMS\_CONFIGURED\_FLAG=N means there is no TEMS configured in the RTE, and KDS\* parameters are ignored.

- You can change the following parameters to meet site-specific requirements:
    - RTE\_TEMS\_NAME\_NODEID
    - RTE\_TCP\_PORT\_NUM
    - RTE\_VTAM\_APPLID\_PREFIX
    - RTE\_STC\_PREFIX
    - RTE\_X\_SECURITY\_EXIT\_LIB
    - RTE\_SECURITY\_CLASS
8. Press Enter to proceed to the next panel.  
The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected except for KDS.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
_ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

### Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLa job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - Configure the components in this RTE to connect to a TEMS. Provide values to the following parameters to specify the communication protocols, ports, TEMS host, TEMS node, TEMS VTAM, and agent's local VTAM and logon information.
    - **Kpp\_AGT\_COMM\_PROTOCOLn**: Specify the communication protocols in priority sequence, for example, IPPIPE, and SNA.
    - **Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**: Specify protocol port numbers for the agents to connect to TEMS.
    - **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG**: Because the primary TEMS that this agents connect to is configured on another RTE, or running on a non-z/OS platform, specify N to this parameter.
    - **Kpp\_TEMS\_NAME\_NODEID**: Specify the node ID of the non-local primary TEMS that the agents connect to, for example, SYSA:CMS.
    - **Kpp\_TEMS\_TCP\_HOST**: Specify the host of the TEMS that the agents connect to, for example, SYSA.
    - **Kpp\_AGT\_TCP\_HOST**: Specify the agent local TCP/IP information.
    - **Kpp\_TEMS\_VTAM\_\***: Specify the primary TEMS VTAM information.
    - **Kpp\_AGT\_VTAM\_\***: Specify the agent's local VTAM information and APPLIDs.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

### What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

- From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
   reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
   WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

- Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
- If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - Type 1s in pane KCIP@PR1, and then go through the validation report.
  - Correct the parameter values.
  - Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

- From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.  KCIJPCFG
2.  Customize PARMGEN configuration profiles. SYSA
3.  Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5.  Perform post configuration steps.        POSTCFG
R   Create next RTE - Reset fields.         New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)  KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4.  Run product security steps              (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs      (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## Scenario QCF17: Creating a Sharing-with-SMP/E runtime environment with agents only and variables enabled

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. There is no TEMS configured in this local RTE because this RTE model assumes that a TEMS (Hub or Remote TEMS) is already deployed in another RTE (if the TEMS is running on z/OS platform), or is already deployed in another non-z/OS platform (z/Linux, Windows, or AIX machines). By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
                z Systems Management Suites

Option ===>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
You have asked to configure a new RTE profile.  
  
Proceed to configure a new RTE profile.  
  
Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>  
  
Quick Configuration Mode  
  
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA  
  
Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode

                                More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

2. Choose a method to create the RTE:

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **@MDLASSV** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
- To create an RTE from scratch, leave the field blank.

3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:

                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:   SYSDA___
                   Work datasets UNIT name

GBL_REGION:      0M_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

- Press Enter to proceed to the next panel.

**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==> Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-SMP RTE Agents only-no local TEMS var
  More:      +
RTE_TYPE:             SHARING_      (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y      (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP_____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y      (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y      (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y      (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:   _____
GBL_DSN_ACF2_MACLIB1:  _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: N      (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:         HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     --      (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SHARE=SMP**
      - **RTE\_SYSV\_SYSVAR\_FLAG=Y**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
      - **RTE\_TEMS\_CONFIGURED\_FLAG=N**

**Note:** RTE\_TEMS\_CONFIGURED\_FLAG=N means there is no TEMS configured in the RTE, and KDS\* parameters are ignored.

- You can change the following parameters to meet site-specific requirements:
    - RTE\_TEMS\_NAME\_NODEID
    - RTE\_TCP\_PORT\_NUM
    - RTE\_VTAM\_APPLID\_PREFIX
    - RTE\_STC\_PREFIX
    - RTE\_X\_SECURITY\_EXIT\_LIB
    - RTE\_SECURITY\_CLASS
8. Press Enter to proceed to the next panel.  
The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected except for KDS.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
_ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

### About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS™ rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

### Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - Configure the components in this RTE to connect to a TEMS. Provide values to the following parameters to specify the communication protocols, ports, TEMS host, TEMS node, TEMS VTAM, and agent's local VTAM and logon information.
    - **Kpp\_AGT\_COMM\_PROTOCOLn**: Specify the communication protocols in priority sequence, for example, IPPIPE, and SNA.
    - **Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**: Specify protocol port numbers for the agents to connect to TEMS.
    - **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG**: Because the primary TEMS that this agents connect to is configured on another RTE, or running on a non-z/OS platform, specify N to this parameter.

- **Kpp\_TEMS\_NAME\_NODEID**: Specify the node ID of the non-local primary TEMS that the agents connect to, for example, SYSA:CMS.
  - **Kpp\_TEMS\_TCP\_HOST**: Specify the host of the TEMS that the agents connect to, for example, SYSA.
  - **Kpp\_AGT\_TCP\_HOST**: Specify the agent local TCP/IP information.
  - **Kpp\_TEMS\_VTAM\_\***: Specify the primary TEMS VTAM information.
  - **Kpp\_AGT\_VTAM\_\***: Specify the agent's local VTAM information and APPLIDs.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.
  5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1

1. Create runtime members/jobs in all WK* libs.  $PARSE

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

Quick Configuration Mode

GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME: SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
Enter n (1-5) to perform tasks.
Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status   Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information. Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>
```

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.  
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.  
Enter ns (1s-12s) for detailed job/task status.

	Description	REQ	Job Name	Status	Date
				More:	+
1.	Composite SUBMIT job (See JCL comments) ** or **		KCIJPSUB		
2.	Allocate runtime RO and RW datasets	(Yes)	KCIJPALO		
3.	Copy SMP/E mbrs from TK*->RK* RO libs	(Yes)	KCIJPLOD		
4.	Run product security steps	(Yes)	KCIJPSEC		
5.	Update variable-named runtime mbrs	(No )	KCIJPUPV		
6.	(Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7.	Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8.	Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9.	Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10.	Verify the configuration jobs	(Tip)	KCIJPIVP		
11.	Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12.	Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

Press F1=Help for more information. Type UTIL to access utility menu.

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

### What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF18: Creating a Sharing-with-SMP/E runtime environment with agents only

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. There is no TEMS configured in this local RTE because this RTE model assumes that a TEMS (Hub or Remote TEMS) is already deployed in another RTE (if the TEMS is running on z/OS platform), or is already deployed in another non-z/OS platform (z/Linux, Windows, or AIX machines).

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

## Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
               (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
               Specify the dataset name of the PARMGEN common/global
               library for the different LPAR runtime environments (RTEs).
               Use the same dataset for managing the different LPAR RTEs.
               Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:    +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJSJOBNAME=%SYJSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **@MDLASS** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
  - To create an RTE from scratch, leave the field blank.
3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.  
 The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:      0M_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.
  
```

5. Review the values on the panel and override them as necessary.
- GBL\_TARGET\_HILEV**  
 Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**  
 Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**  
 Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.  
**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-SMP RTE w/ Agents only-no local TEMS_
  More:      +
RTE_TYPE:             SHARING_      (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y      (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP_____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y      (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N      (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y      (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: N      (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     --      (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:    1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:      IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SHARE=SMP**
      - **RTE\_SYSV\_SYSVAR\_FLAG=N**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
      - **RTE\_TEMS\_CONFIGURED\_FLAG=N**

**Note:** RTE\_TEMS\_CONFIGURED\_FLAG=N means there is no TEMS configured in the RTE, and KDS\* parameters are ignored.

- You can change the following parameters to meet site-specific requirements:
    - RTE\_TEMS\_NAME\_NODEID
    - RTE\_TCP\_PORT\_NUM
    - RTE\_VTAM\_APPLID\_PREFIX
    - RTE\_STC\_PREFIX
    - RTE\_X\_SECURITY\_EXIT\_LIB
    - RTE\_SECURITY\_CLASS
8. Press Enter to proceed to the next panel.  
The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected except for KDS.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
_ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

### Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLa job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - Configure the components in this RTE to connect to a TEMS. Provide values to the following parameters to specify the communication protocols, ports, TEMS host, TEMS node, TEMS VTAM, and agent's local VTAM and logon information.
    - **Kpp\_AGT\_COMM\_PROTOCOLn**: Specify the communication protocols in priority sequence, for example, IPPPIPE, and SNA.
    - **Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**: Specify protocol port numbers for the agents to connect to TEMS.
    - **Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG**: Because the primary TEMS that this agents connect to is configured on another RTE, or running on a non-z/OS platform, specify N to this parameter.
    - **Kpp\_TEMS\_NAME\_NODEID**: Specify the node ID of the non-local primary TEMS that the agents connect to, for example, SYSA:CMS.
    - **Kpp\_TEMS\_TCP\_HOST**: Specify the host of the TEMS that the agents connect to, for example, SYSA.
    - **Kpp\_AGT\_TCP\_HOST**: Specify the agent local TCP/IP information.
    - **Kpp\_TEMS\_VTAM\_\***: Specify the primary TEMS VTAM information.
    - **Kpp\_AGT\_VTAM\_\***: Specify the agent's local VTAM information and APPLIDs.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

### What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.  KCIJPCFG
2.  Customize PARMGEN configuration profiles.  SYSA
3.  Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5.  Perform post configuration steps.         POSTCFG
R   Create next RTE - Reset fields.          New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)  KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4.  Run product security steps              (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs      (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## Scenario QCF19: Creating a Sharing-with-SMP/E runtime environment with a hub monitoring server and variables enabled

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs. This RTE has a Hub TEMS, enhanced 3270 user interface (TOM), and OMEGAMON for JVM (KJJ) Agent only.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
                z Systems Management Suites

Option ==>>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU, IKANPARU, IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU, WKANPARU, WKANSAMU)
                - &hlq.&rte_name.WCONFIG

```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
You have asked to configure a new RTE profile.  
  
Proceed to configure a new RTE profile.  
  
Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>  
  
Quick Configuration Mode  
  
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA  
  
Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
                More:      +
Specify the RTE model profile to use:
==> -----
- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **\$MDLHSSV** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
- To create an RTE from scratch, leave the field blank.

3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:

                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:   SYSDA___
                   Work datasets UNIT name

GBL_REGION:      OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

- Press Enter to proceed to the next panel.

**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-SMP RTE w/ Hub/TOM/KJJ Agent w/ vars.
  More:      +
RTE_TYPE:             SHARING_          (Full, Sharing)
RTE_HILEV:           TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y      (Y, N) (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP_____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y      (Y, N) (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y      (Y, N) (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y      (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1:  _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y      (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: &SYSNAME.:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:         HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:      --      (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:      &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:        IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SHARE=SMP**
      - **RTE\_SYSV\_SYSVAR\_FLAG=Y**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
  - You can change the following parameters to meet site-specific requirements:
    - **RTE\_TEMS\_NAME\_NODEID**

- RTE\_TCP\_PORT\_NUM
- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB
- RTE\_SECURITY\_CLASS

8. Press Enter to proceed to the next panel.

The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed with KDS, KJJ, and KOB selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                               Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
  _ KAH System Automation Monitoring Agent V350
  _ KC5 OMEGAMON for CICS V550
  _ KDO Tivoli Decision Support for z/OS Agent V181
  / KDS Tivoli Enterprise Monitoring Server V630
  _ KD4 ITCAM for SOA Agent V711
  _ KD5 OMEGAMON for DB2 PE V550
  _ KGW OMEGAMON for CICS TG V550
  _ KI5 OMEGAMON for IMS V550
  / KJJ OMEGAMON for JVM V540
  _ KMQ OMEGAMON for Messaging - MQ V750
  _ KM5 OMEGAMON for z/OS V550
  _ KNA NetView for z/OS Agent V621
  _ KN3 OMEGAMON for Networks V550
  / KOB OMEGAMON Enhanced 3270 User Interface V750
  _ KQI OMEGAMON for Messaging - Integration Bus V750
  _ KRG Advanced Audit for DFSMSshm Agent V260
  _ KRH Advanced Reporting and Management for DFSMSshm Agent V260
  _ KRJ Advanced Allocation Management Agent V330
  _ KRK Automated Tape Allocation Manager for z/OS Agent V330
  _ KRN Advanced Catalog Management Agent V260
  _ KRV Advanced Backup and Recovery for z/OS Agent V240
  _ KRW Tape Optimizer for z/OS Agent V220
  _ KS3 OMEGAMON for Storage V540
  _ KYN ITCAM for Application Diagnostics, TEMA V710.03
  End of data
```

9. Deselect any products that you do not want to include in the RTE, then change `Confirm ==> N` to `Y`, and press Enter.

The JCL for the KCIJPCFG job is displayed.

10. Review the JCL to understand what the job is doing, then submit the job.

The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS™ rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE0**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.
5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

          Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.    KCIJPUP1
1. Create runtime members/jobs in all WK* libs.    $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.  KCIJPCFG
2.  Customize PARMGEN configuration profiles.  SYSA
3.  Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5.  Perform post configuration steps.         POSTCFG
R   Create next RTE - Reset fields.          New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)  KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4.  Run product security steps              (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs      (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## Scenario QCF20: Creating a Sharing-with-SMP/E runtime environment with a hub monitoring server

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. This RTE has a Hub TEMS, enhanced 3270 user interface (TOM), and OMEGAMON for JVM (KJJ) Agent only.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
              z Systems Management Suites

Option ===>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

UNIT      /  STORCLAS /
VOLSER    /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                    HLQ of SMP/E target (TK*) datasets  ----- / ----- /
```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.
```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG
```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.
```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
You have asked to configure a new RTE profile.  
  
Proceed to configure a new RTE profile.  
  
Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>  
  
Quick Configuration Mode  
  
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA  
  
Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode

                                More:      +

Specify the RTE model profile to use:
==> -----
- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **\$MDLHSS** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
- To create an RTE from scratch, leave the field blank.

3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:

                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:   SYSDA____
                  Work datasets UNIT name

GBL_REGION:      OM_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

- Press Enter to proceed to the next panel.

**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-SMP RTE w/ Hub/TOM/KJJ Agent only____
More:                +

RTE_TYPE:             SHARING_          (Full, Sharing)
RTE_HILEV:           TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:     TDITN.IDTST_____ (ex.: TDITN.IDTST
                    (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:     _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:   _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:   _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                    (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP_____ ("SMP" value or *&rte_share)
                    (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: N   (Y, N)   (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y   (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS: _____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB: _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y   (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     --   (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     1918_____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SHARE=SMP**
      - **RTE\_SYSV\_SYSVAR\_FLAG=N**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
  - You can change the following parameters to meet site-specific requirements:
    - **RTE\_TEMS\_NAME\_NODEID**

- RTE\_TCP\_PORT\_NUM
- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB
- RTE\_SECURITY\_CLASS

8. Press Enter to proceed to the next panel.

The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed with KDS, KJJ, and KOB selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                               Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
  _ KAH System Automation Monitoring Agent V350
  _ KC5 OMEGAMON for CICS V550
  _ KDO Tivoli Decision Support for z/OS Agent V181
  / KDS Tivoli Enterprise Monitoring Server V630
  _ KD4 ITCAM for SOA Agent V711
  _ KD5 OMEGAMON for DB2 PE V550
  _ KGW OMEGAMON for CICS TG V550
  _ KI5 OMEGAMON for IMS V550
  / KJJ OMEGAMON for JVM V540
  _ KMQ OMEGAMON for Messaging - MQ V750
  _ KM5 OMEGAMON for z/OS V550
  _ KNA NetView for z/OS Agent V621
  _ KN3 OMEGAMON for Networks V550
  / KOB OMEGAMON Enhanced 3270 User Interface V750
  _ KQI OMEGAMON for Messaging - Integration Bus V750
  _ KRG Advanced Audit for DFSMSshm Agent V260
  _ KRH Advanced Reporting and Management for DFSMSshm Agent V260
  _ KRJ Advanced Allocation Management Agent V330
  _ KRK Automated Tape Allocation Manager for z/OS Agent V330
  _ KRN Advanced Catalog Management Agent V260
  _ KRV Advanced Backup and Recovery for z/OS Agent V240
  _ KRW Tape Optimizer for z/OS Agent V220
  _ KS3 OMEGAMON for Storage V540
  _ KYN ITCAM for Application Diagnostics, TEMA V710.03
  End of data
```

9. Deselect any products that you do not want to include in the RTE, then change `Confirm ==> N` to `Y`, and press Enter.

The JCL for the KCIJPCFG job is displayed.

10. Review the JCL to understand what the job is doing, then submit the job.

The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLn jobs, see [Preparing the configuration profiles by running the KCIJPDLn jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

## Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status    Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.  
The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.

- a. Type 1s in pane KCIP@PR1, and then go through the validation report.
- b. Correct the parameter values.
- c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE    Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

3. If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.

For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)
- The *Planning and Configuration Guide* for each product.

## Scenario QCF21: Creating a Sharing-with-base runtime environment with a hub monitoring server and variables enabled

A sharing-with-base runtime environment (RTE) shares its read-only runtime libraries with other RTEs. The configuration software automatically creates the base RTE when you configure the first RTE that shares it. Sharing RTEs configured subsequently can then reference that base RTE. By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                                HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the requested values to define the RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.    SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.           POSTCFG
R   Create next RTE - Reset fields.            New RTE
```

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYJOBNAME=%SYJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)
```

2. Choose a method to create the RTE:

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **\$MDLHSBV** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
  - To create an RTE from scratch, leave the field blank.
3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.  
 The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>

                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  ----- / ----- /

GBL_SYSDA_UNIT:  SYSDA___
                  Work datasets UNIT name

GBL_REGION:     0M_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.
  
```

5. Review the values on the panel and override them as necessary.
- GBL\_TARGET\_HILEV**  
 Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**  
 Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**  
 Specifies the JCL REGION value override if other than the REGION=0M value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/ M suffix (ex.: 4096K, 0M). The default is 0M.

6. Press Enter to proceed to the next panel.  
**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==> Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-Base RTE w/ Hub TEMS/Agents w/ vars._
More:                +
RTE_TYPE:             SHARING_      (Full, Sharing)
RTE_HILEV:            TDITN.IDTST_  (ex.: TDITN.IDTST
                        (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_  (ex.: TDITN.IDTST
                        (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
                        (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE:           _____ ("SMP" value or *&rte_share)
                        (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y   (Y, N)   (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y   (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF_____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y   (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID:  &SYSNAME.:CMS_____ (e.g.,DEMO:cms)))
KDS_TEMS_TYPE:         HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     --   (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SYSV\_SYSVAR\_FLAG=Y**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
  - You can change the following parameters to meet site-specific requirements:
    - **RTE\_TEMS\_NAME\_NODEID**
    - **RTE\_TCP\_PORT\_NUM**

- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB
- RTE\_SECURITY\_CLASS

8. Press Enter to proceed to the next panel.

The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                               Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSShsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSShsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change Confirm ==> N to Y, and press Enter.  
The JCL for the KCIJPCFG job is displayed.
10. Review the JCL to understand what the job is doing, then submit the job.  
The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS™ rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE0**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLn jobs, see [Preparing the configuration profiles by running the KCIJPDLn jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.
5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KICIPQGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

                Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.             KCIJPCFG
2.  Customize PARMGEN configuration profiles.            SYSA
3.  Create this RTE's runtime members and jobs.          $PARSE    Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup.         SUBMIT    Enter 4 for details.
5.  Perform post configuration steps.                    POSTCFG
R   Create next RTE - Reset fields.                     New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KICIP@SUB) is displayed.

```

KICIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

                Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)             KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets                 (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs               (Yes) KCIJPLOD
4.  Run product security steps                         (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs                 (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV            (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files               (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution)     KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps             (Yes) KCIJPLNK
10. Verify the configuration jobs                       (Tip) KCIJPIVP
11. Back-up RK* product execution user libs           (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs           (Yes) Enter 12 for details.

                More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## Scenario QCF22: Creating a Sharing-with-SMP/E runtime environment with a hub monitoring server and variables enabled

A sharing-with-SMP/E runtime environment (RTE) contains LPAR-specific libraries and references the read-only target libraries managed by SMP/E. Because an RTE that shares the SMP/E target libraries is updated when the SMP/E maintenance is applied, a sharing-with-SMP/E configuration is good for testing maintenance before other RTEs are updated. By using variables in the new RTE, you can quickly reconfigure operational values without recreating the RTE, or clone the RTE and transport it to other LPARs.

### About this task

It is recommended that you configure the RTE by using the IBM-provided model.

### Defining the runtime environment

To define the runtime environment (RTE) you want to configure, you specify the name of the RTE, identify the library where the JCL for all the configured runtime environments (RTEs) is stored, and provide the high-level qualifier that, together with the RTE name, uniquely identifies the data sets for this RTE.

### Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```
KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
                  ©Copyright IBM Corporation 1992-2017
                  Licensed Material - Program Property of IBM
```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```
KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>
```

PARMGEN stores configuration values in the TSO user's ISPF profile. If this is the first-time your TDITNT TSO user ID is invoking PARMGEN, enter the GBL\_TARGET\_HILEV-related values appropriate for your deployment:

```

UNIT      /  STORCLAS /
VOLSER    /  MGMTCLAS /
GBL_TARGET_HILEV: _____ / _____ /
                    HLQ of SMP/E target (TK*) datasets  ----- / ----- /
```

**Note:**

If this is not the first time your TDITNT ID is invoking PARMGEN, this panel is also presented if the GBL\_TARGET\_HILEV stored value changed from the last time you invoked PARMGEN. Verify GBL\_TARGET\_HILEV, UNIT, VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:

```

GBL_USER_JCL:
RTE_PLIB_HILEV:
RTE_NAME:
Last GBL_TARGET_HILEV:
```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```
KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>
```

Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

```

GBL_USER_JCL: _____
                (For example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.
```

```

RTE_PLIB_HILEV: _____
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG
```

```

RTE_NAME: _____ (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.
```

3. Provide the requested values to define the RTE that you want to create.

**GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN . IDTST . PARMGEN . JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

**RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN . IDTST .

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

## RTE\_NAME

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
You have asked to configure a new RTE profile.  
  
Proceed to configure a new RTE profile.  
  
Press ENTER to continue. Press F3 to abort.
```

5. Press Enter. The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIPQPGB) is displayed.

```
KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----  
Option ==>  
  
Quick Configuration Mode  
  
GBL_USER_JCL: TDITN.IDTST.PARMGEN.JCL  
RTE_PLIB_HILEV: TDITN.IDTST  
RTE_NAME: SYSA  
  
Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.  
If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.  
Enter n (1-5) to perform tasks.  
Enter ns (1s-5s) for detailed job/task status.
```

	Description	Job/Label	Status	Date
1.	Set up/Refresh PARMGEN work environment.	KCIJPCFG		
2.	Customize PARMGEN configuration profiles.	SYSA		
3.	Create this RTE's runtime members and jobs.	\$PARSE		
4.	Submit batch jobs to complete PARMGEN setup.	SUBMIT		
5.	Perform post configuration steps.	POSTCFG		
R	Create next RTE - Reset fields.	New RTE		

## Setting up the work environment

To set up the work environment for an RTE, you specify what type of RTE is being configured, set RTE-specific values, and select the products to be configured in the environment. Then you submit the KCIJPCFG job, which uses the values you provide to allocate the work libraries, update the interim libraries, and create the configuration profiles for the RTE. You can select a model RTE to use to set up the new RTE, or configure it from scratch.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
                More:      +
Specify the RTE model profile to use:
==> -----
- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=OM-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSMEMBER=%SYSMEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

2. Choose a method to create the RTE

- To use the IBM-provided model RTE configuration profile, enter a question mark (?) in the first field, then select **@MDLHSSV** from the presented list of models and press Enter. The configuration software then populates the field with the fully-qualified name for the RTE.
- To create an RTE from scratch, leave the field blank.

3. As appropriate, specify the job card data.

**Jobcard data**

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*. TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

4. Press Enter to proceed to the next panel.

The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed. The values on this panel are read from the profile library and runtime member name you specified on the preceding panel.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:   TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      DEMO

Enter parameter values appropriate for your environment:

                                UNIT   /  STORCLAS /
                                VOLSER /  MGMTCLAS /
GBL_TARGET_HILEV: TDITNT.DEV.ITM63053_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  ----- / -----

GBL_SYSDA_UNIT:   SYSDA___
                   Work datasets UNIT name

GBL_REGION:      OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary.

**GBL\_TARGET\_HILEV**

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

**GBL\_SYSDA\_UNIT**

Specifies the non-VSAM disk UNIT for global work data sets.

**GBL\_REGION**

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

- Press Enter to proceed to the next panel.

**The Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed with pre-defined values according to the model you selected.

```

KCIP@PG3 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>                               Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.
Press F1=Help for more information.

RTE_DESCRIPTION:      Sharing-w/-SMP RTE w/ Hub TEMS/Agents w/ vars.____
More:                +

RTE_TYPE:            SHARING_          (Full, Sharing)
RTE_HILEV:           TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:      TDITN.IDTST_____ (ex.: TDITN.IDTST
(&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If any RTE dataset HLQ-related parameter values are NONSMS-managed:
RTE_SMS_UNIT:        _____ (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:      _____ (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:    _____ (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:    _____ (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: _____ (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: _____ (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: _____ (VSAM disk STORCLAS)

RTE_SMS_PDSE_FLAG:   Y   (Y, N)   (Allocate Non-VSAM PDSE libraries)

If RTE_TYPE is SHARING:
RTE_X_HILEV_SHARING: _____ (ex.: TDITN.IDTST)
(&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_SHARE: SMP_____ ("SMP" value or *&rte_share)
(*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
RTE_LOAD_SHARED_LIBS: Y   (Y, N)   (Is RTE updater of RO shared libs)

If symbolics (system variables or user-defined variables) will be used:
RTE_SYSV_SYSVAR_FLAG: Y   (Y, N)   (System/User variables flag)

Security settings:
RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
RTE_SECURITY_FOLD_PASSWORD_FLAG: Y   (Y, N) (Fold password to upper case)
RTE_SECURITY_CLASS:   &OMEGSAF._____
RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
GBL_DSN_ACF2_MACLIB:  _____
GBL_DSN_ACF2_MACLIB1: _____

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
RTE_TEMS_CONFIGURED_FLAG: Y   (Y, N) (Configure TEMS in this RTE)
RTE_TEMS_NAME_NODEID: &SYSNAME.:CMS_____ (e.g., DEMO:cms)))
KDS_TEMS_TYPE:        HUB_____ (Hub, Remote)
KDS_TEMS_HA_TYPE:     __   (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
RTE_TCP_PORT_NUM:     &RTE_PORT._____ (1-65535 port number)
RTE_VTAM_APPLID_PREFIX: K&SYSCLONE._____ (1-4 char.VTAM APPLID prefix)
RTE_STC_PREFIX:       IBM_____ (1-4 char.started task prefix)

```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Look for the **More: +** that indicates that there is additional content on the panel.)

7. Modify the values in the panel based on the RTE that you are creating.
  - If your environment is not SMS-managed, specify the VSAM values.
  - Provide values to parameters that are required by the RTE:
    - If you are following the IBM-provided model, provide value for the following parameter:
      - **RTE\_X\_HILEV\_SHARING**
    - If you are creating the RTE from scratch, provide values for the following parameters:
      - **RTE\_TYPE=SHARING**
      - **RTE\_SHARE=SMP**
      - **RTE\_SYSV\_SYSVAR\_FLAG=Y**
      - **RTE\_X\_HILEV\_SHARING=base\_rte\_hlq**
  - You can change the following parameters to meet site-specific requirements:
    - **RTE\_TEMS\_NAME\_NODEID**

- RTE\_TCP\_PORT\_NUM
- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX
- RTE\_X\_SECURITY\_EXIT\_LIB
- RTE\_SECURITY\_CLASS

8. Press Enter to proceed to the next panel.

The **Include (Configure) Product(s) in this LPAR RTE** panel (KCIP@PGI) is displayed. All the products that are installed in the target libraries are listed and selected.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>                               Scroll ==> PAGE

Select ("S" or "/") products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSshm Agent V260
/ KRH Advanced Reporting and Management for DFSMSshm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

9. Deselect any products that you do not want to include in the RTE, then change `Confirm ==> N` to `Y`, and press Enter.

The JCL for the KCIJPCFG job is displayed.

10. Review the JCL to understand what the job is doing, then submit the job.

The KCIJPCFG job submits a second job, KCIJPPRF. Wait until both jobs complete before proceeding to the next step.

## Result

The configuration software allocates the runtime libraries, creates the configuration profiles, populates the PARMGEN templates in IKAN\* libraries with runtime members for the products selected for configuration.

## Customizing the configuration profiles

The configuration profiles have been tailored with the values you provided in the previous step. They also contain default values for all required parameters and some optional parameters. The amount of additional customization required depends upon how you are creating the runtime environment (RTE) and how much your environment differs from the model or product-provided defaults. At a minimum, you must supply site-specific values (such as any subsystems you want to monitor, protocols other than the IPPPIPE and SNA defaults, and the like), including variable resolution values. You must also enable and configure any features you want to exploit (such as support for self-describing agents).

## About this task

The RTE profile inherits the symbolics specified on the KCIP@PG3 panel. However, you must replace all instances of the actual RTE name in the RTE profile with a symbolic (for example, &SYSNAME.), except for the **RTE\_NAMESV** parameter instance. You can assign symbolics to additional parameters, but see [“Parameters ineligible to use variables” on page 1248](#) for parameters that must be excluded from use of symbolics. You must also edit the variables profile to set the resolution value of the symbolic assigned to the RTE name.

If you assign symbolics in either the RTE or the global configuration profile to parameters that are concatenated in or part of started task procedures, you must follow the MVS™ rules governing the use of symbolics in started task procedures and JCL. In the RTE profile, these are the following parameters:

- **RTE\_NAME**
- **RTE\_HILEV**
- **RTE\_VSAM\_HILEV**
- **RTE\_X\_HILEV\_SHARING**
- **RTE\_SHARE**
- **Kpp\_\*\_VTAM\_APPL\_\***

In the global profiles, these are the following parameters:

- **GBL\_DSN\_DB2\_\***
- **GBL\_DSN\_IMS\_\***
- **GBL\_DSN\_CICS\_CTG\_DLL**
- **GBL\_DSN\_WMQ\_\***
- **GBL\_DSN\_CSF\_SCSFMODE0**
- **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

## Procedure

1. From the Workflow - Primary Option Menu, select 2 (Customize PARMGEN configuration profiles). The Customize PARMGEN Configuration Profile Members panel (KCIP@PG6) is displayed.
2. Type DLAJOB in the command line and press **Enter** to review the composite KCIJPDLa job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.  
For more information about the KCIJPDLa jobs, see [Preparing the configuration profiles by running the KCIJPDLa jobs](#), and [PARMGEN z/OS DLA utility jobs and commands](#).
3. Select 1 to edit the RTE profile.
  - If you want to use the self-describing agent (SDA) feature, set the resolution value for **KDS\_KMS\_SDA** to Y, and provide site-specific values for **RTE\_USS\_RTEDIR**.
  - If one or more of the following products are configured in this RTE, see [Configure OMEGAMON monitoring agents and other components](#) for the parameters that you must configure at a minimum.
    - OMEGAMON® AI for Db2
    - OMEGAMON for IMS on z/OS
    - OMEGAMON for Networks
  - You can configure any monitoring server features that you want to enable ([Configure a Tivoli Enterprise Monitoring Server](#)).
4. Select 2 to edit the \$GBL\$USR global profile.  
At a minimum, if you enabled SDA, you must provide a value to the **GBL\_HFS\_JAVA\_DIR1** parameter. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.
5. Select 3 to edit the variables profile.  
Provide values for any user-defined variables that you add, any variables that whose values differ from the IBM-provided default resolution values, and any variables whose values cannot be automatically

discovered from the system IPL PARMLIB data set. See [Customizing the variables profile](#) for more information on customizing variables.

## What to do next

If you need to further customize the configuration using the override embed members, customize the embed files before you run the \$PARSE job to create the RTE members and jobs. To edit the embed files, select option 4 on the **Customize PARMGEN Configuration Profile Members** panel. You can also edit the files by entering UTIL on the command line of any Workflow panel to access the Access PARMGEN Utilities panel, then selecting option 7. For more information on customizing embed files, see [Customizing the override embed members](#).

## Creating the RTE members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job. This job creates the runtime members and generates a set of jobs that extract the parameters values specified during configuration.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status     Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job. The KCIJPVAL job that validates profile parameter values is included in the validation report \$PARSE. If the VALDATE step gets a condition code greater than 4 (COND CODE 0004), the remaining steps in \$PARSE job will not be executed unless you correct all the errors in \$VALRPT.
3. If the condition code returned is greater than 4, complete the following steps to correct the errors. Otherwise, press F3 to return to the main menu.
  - a. Type 1s in pane KCIP@PR1, and then go through the validation report.
  - b. Correct the parameter values.
  - c. Resubmit the \$PARSE job.

## Completing the setup of the runtime environment

Submitting the batch jobs created in the preceding step is the final step in setting up the runtime environment (RTE) using the configuration software.

### Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```

KCIQPGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
       If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
       Enter n (1-5) to perform tasks.
       Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1.  Set up/Refresh PARMGEN work environment.  KCIJPCFG
2.  Customize PARMGEN configuration profiles.  SYSA
3.  Create this RTE's runtime members and jobs. $PARSE   Enter 3 for details.
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT   Enter 4 for details.
5.  Perform post configuration steps.         POSTCFG
R   Create next RTE - Reset fields.          New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.

```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCI@SUB) is displayed.

```

KCI@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1.  Composite SUBMIT job (See JCL comments)  KCIJPSUB
    ** OR **
2.  Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3.  Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4.  Run product security steps              (Yes) KCIJPSEC
5.  Update variable-named runtime mbrs      (No ) KCIJPUPV
6.  (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7.  Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8.  Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9.  Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More:      +

Press F1=Help for more information.  Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- Submit the required jobs either by using the composite SUBMIT job, or by submitting them individually.

#### TUTORIAL INFORMATION

If you choose to use the composite SUBMIT job, review and edit it as necessary. For example, some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization.

- If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## What to do next

Complete any configuration required outside the configuration software. You can access "Complete the configuration" instructions for all installed products and components by selecting option 5 from the Workflow - Primary Option Menu. For more detailed instructions, see the following information:

- [Completing the configuration outside the configuration software](#)

- The *Planning and Configuration Guide* for each product.

## SMP/E maintenance and upgrade scenarios

---

During maintenance and upgrades, only a subset of the PARMGEN KCIJ\* jobs need to be rerun to refresh the read-only product execution runtime libraries and the product-specific RKANDATV library. The steps that you need to take depend upon the maintenance or upgrade scenario you are implementing.

At a minimum, the KCIJPLOD load job must be run. The jobs that need to be regenerated or resubmitted in addition to the KCIJPLOD job vary depending upon the scenario:

1. Applying SMP/E maintenance to an existing RTE with no new configuration changes.
2. Applying SMP/E maintenance to an existing RTE with new configuration changes, but use or run with IBM-supplied configuration defaults.
3. Applying SMP/E maintenance to an existing RTE with new configuration changes and use new features or override the IBM-supplied configuration defaults.
4. Upgrading the SMP/E environment to new FMID versions and upgrade an existing RTE with no new configuration changes.
5. Upgrading the SMP/E environment to new FMID versions and upgrade an existing RTE with new configuration changes, but use or run with IBM-supplied configuration defaults.
6. Upgrading the SMP/E environment to new FMID versions and upgrade an existing RTE with new configuration changes and use new features or override the IBM-supplied configuration defaults.

For scenario 1, only the KCIJPLOD job is required. For all the other scenarios, the KCIJPCFG job is also required. For 3 and 6, you must edit the RTE profile.

For more information about upgrade paths and scenarios, see the topics in .

### Scenario SMPE01: Applying maintenance to an existing runtime environment without changing the configuration

If no new members or parameters are introduced by the maintenance that is being applied to an existing runtime environment (RTE), the only configuration job that you need to run is KCIJPLOD. The KCIJPLOD job copies the members of the products' SMP/E target libraries to the RTE's read-only RK\* runtime libraries. You can run the job in WKANSAMU, or use the PARMGEN Workflow tool. You can load RTEs individually or load all RTEs at one time.

#### About this task

The KCIJPLOD job loads the runtime libraries with IEBCOPY in a two-step process:

1. All members are copied from the SMP/E target libraries to the runtime libraries.
2. The runtime libraries are compressed.

#### Procedure

- Run the KCIJPLOD job using one of the following methods:
  - Submit the KCIJPLOD job in the %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WKANSAMU library.
  - Submit the KCIJPLOD job from the PARMGEN Workflow interface:
    - a. Enter a question mark (?) in the **RTE\_NAME** field on the first Workflow panel. The Runtime Environments (RTEs) panel is displayed.

KCIP@RTE ----- RUNTIME ENVIRONMENTS (RTEs) ----- Row 6 to 10 of 17

Command ==> Scroll ==>  
PAGE

Locate the RTE you want to process from the list of RTEs inventoried from the PARMGEN global library (QISUN.IDTST.PARMGEN.JCL).  
See F1=Help for additional cross-RTE Actions/RTE Commands available.

Single RTE Actions: Type the action character next to the RTE name:

- "S" or "/" Switch to an RTE.
- "P" Display the products configured in an RTE.
- "D" Delete an RTE. You cannot delete the active RTE.

Multiple RTE Actions: Type the action character next to one or more RTEs:

- "L" Copy read-only (RO) elements from the SMP/E target libraries to the RO RK\* runtime libraries (KCIJPL0D job).

Multiple RTE Commands: Type the indicated command on the command line:

- "LOADALL" Submit multi-load (KCIJPL0D) job for all listed RTEs.
- "SHOWDESC"/"HIDEDESC" Show/Hide RTE Description for all listed RTEs.

RTE Name	Read-only (RO) shared libraries (SHRLIBs)	Load SHRLIBs?	VARs?
_ DEMO	N/A (TSTEST.CCAPI.DEMO.RK* FULL RTE libs)	N/A (FULL RTE)	N
_ DEMOHA	N/A (TDITN.IDTST.DEMOHA.RK* FULL RTE libs)	N/A (FULL RTE)	N
_ DEMOMVS	N/A (TSTEST.CANDLET.XEGA.DEMOMVS.RK* FULL RTE)	N/A (FULL RTE)	N
_ PGN3MVSE	TSTEST.BASE2.RK* base libs	Y	Y
_ PLBHAHUB	N/A (TSTEST.&userid.PLBHAHUB.RK* FULL RTE libs)	N/A (FULL RTE)	N

- b. Type L to select the RTE or RTEs you want to load, then press Enter, or enter LOADALL to load all RTEs listed in the global JCL library.

If any members in the IEBCOPY steps are not found in the source libraries, a return code of 4 (which is acceptable) is generated.

For further information, see the comments in the KCIJPL0D job if you use option 1, or KCIJ@LOD from GBL\_USER\_JCL if you use a LOADDATV function.

## Result

The runtime environment is updated with the maintenance. The runtime members in the production user libraries (RKANCMU, RKANPARU, RKANSAMU, RKD2PAR\*\*, RKD2PRF\*\*, RKD2SAM\*\*) are running with the original runtime members without any new parameters or members possibly introduced with the maintenance. For example, without any new parameters in RKANPARU(KppENV), or without new members that would typically be populated in the RK\* user library. Similar processing is done for the PARMGEN WK\* work libraries.

## Scenario SMPE02: Applying SMP/E maintenance with configuration changes to an existing RTE and using IBM-supplied configuration defaults for new features

If the SMP/E maintenance that is applied includes new product features that introduce new configuration parameters or members, you must refresh the work environment to add them to the global libraries and regenerate the RTE members and jobs. You might also have to submit jobs in addition to the KCIJPLOD job. However, you do not need to update the RTE-specific configuration profiles.

### About this task

You can stage the new product configuration parameters for each runtime environment by adding new parameters and members to the runtime libraries. Typically, Interim Feature (IF) or Fix Pack (FP) configuration changes are delivered as benign, and IBM-supplied configuration defaults are supplied, so you do not need to edit the configuration profiles. To stage the new parameters, complete the following steps:

1. Refresh the work libraries.
2. Regenerate the RTE members and jobs.
3. Submit the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data.

**Tip:** Each site has different change-control procedures. Certain sites deploy these types of changes by renaming the current production RK\* libraries to a backup set like RK\*.Dyymdd, then renaming the latest WK\* set to RK\*. Sample backup and deployment jobs WKANSAMU(KCIJPCPR) and WKANSAMU(KCIJPW2R) provide helpful samples.

### Procedure

1. Refresh the work libraries.  
This step updates interim libraries and recreates the configuration profiles with any new parameters.

- a. From the Workflow main menu, select **Set up PARMGEN work environment for an RTE**.  
The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>
```

```
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.
```

```
Press ENTER to continue with KCIJPCFG changes.
```

```
Press F3 to abort.
```

- b. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- c. Step through the presented panels by pressing Enter to accept the current configuration values.  
(On the Include Products in this PARMGEN RTE panel, enter y to confirm the current choices.)  
After you confirm the current product selection, you are prompted to provide a name for the backup copy of the RTE profile.

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----  
Command ==>
```

If you changed any JVM RTE configuration values on the "SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation panels, or changed the configured product mix or upgraded product versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs. You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the resubmission and refresh process. A default backup member is provided. Blank-out the field if you do not want to refresh the profiles.

```
DEMO Backup member name ==> _____ (Required for KCIJPPRF)
```

PARMGEN automatically backs up the RTE profile in TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK\* datasets, rebuilds the profiles with the new values, merges in the profiles values from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

If you do not provide a backup name, KCIJPCFG does not update the interim libraries and merge back in the current values.

- d. Provide a name for the backup, then press Enter.  
The KCIJPCFG JCL is displayed.
  - e. Review the notes, then submit the job.  
The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Regenerate the RTE members and jobs.
    - a. Select **Create the RTE members and jobs**.  
The **\$PARSE /\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
    - b. Select option 1 to submit the composite job.  
TUTORIAL INFORMATION If the updates affect only one set of libraries, you can submit the library-specific job instead of the composite job. Press F5 to create runtime members and jobs in an individual library (WKANCMDU, WKANPARU, or WKANSAMU).  
  
The \$PARSE job takes the product templates from the %RTE\_PLIB\_HILEV%.%RTE\_NAME%. IK\* staging libraries, applies the customized values from the configuration profiles, and creates the runtime members in the work libraries (WK\*).
    - c. Return to the main Workflow panel.
  3. Submit the jobs to complete the setup of the RTE.
    - a. Select **Submit batch jobs to complete PARMGEN setup**.  
The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
   ** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs      (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information. Type UTIL to access utility menu.

```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might also have to run one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON for IMS on z/OS is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

**Result**

The runtime members and WKANSAMU jobs are updated with the new parameters using the IBM-supplied defaults.

# Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults

Typically, configuration changes introduced by Interim Features or Fix Packs are delivered as benign, and IBM-supplied configuration defaults are supplied. However, you might need to edit the configuration profiles to exploit new features or to set custom values for new parameters.

## About this task

There are four main steps involved in this scenario:

1. Refreshing the work libraries.
2. Editing profiles and override embed members, as necessary.
3. Regenerating the RTE members and jobs.
4. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and copy the updated work libraries to the user runtime libraries (KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data.

**Tip:** Each site has different change-control procedures. Certain sites deploy these types of changes by renaming the current production RK\* libraries to a backup set like RK\*.Dyymmdd, then renaming the latest WK\* set to RK\*. Sample backup and deployment jobs WKANSAMU(KCIJPCPR) and WKANSAMU(KCIJPW2R) provide helpful samples.

## Procedure

1. Refresh the work libraries.

This step backs up (renames) the existing LPAR profile, updates the interim libraries, recreates the configuration profiles with any new parameters, and merges the backup profile with the newly created one.

- a. Select the runtime environment to which you want to apply maintenance.
- b. From the Workflow - Primary Options Menu, select Set up PARMGEN work environment for an RTE to regenerate and resubmit the KCIJPCFG job.

The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Step through the presented panels by pressing Enter to accept the current configuration values. (On the Include Products in this PARMGEN RTE panel, enter y to confirm the current choices.) After you confirm the current product selection, you are prompted to provide a name for the backup copy of the RTE profile.

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----  
Command ==>
```

If you changed any JVM RTE configuration values on the "SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation panels, or changed the configured product mix or upgraded product versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs. You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the resubmission and refresh process. A default backup member is provided. Blank-out the field if you do not want to refresh the profiles.

DEMO Backup member name ==> \_\_\_\_\_ (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK\* datasets, rebuilds the profiles with the new values, merges in the profiles values from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

If you do not provide a backup name, the interim libraries are not updated and the current values cannot be merged back in.

- e. Enter a name for the profile backup member.  
The KCIJPCFG job is displayed.
  - f. Review the notes, then submit the job.  
The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Edit profiles and override embeds to customize new features or parameters as required.
    - a. Select **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members** panel is displayed.
    - b. Select the RTE, global, and variables profiles in turn as necessary and make the required customizations. If required, edit the appropriate embed members.

#### Tips:

- In a scenario where you have also added a new product to configure to this runtime environment, ensure that you also customize the new product's *Kpp\_\** PARMGEN profile parameters that are added into the refreshed RTE configuration profile.
- Compare the updated \$CFG\$IBM and \$GBL\$IBM to your customized profiles to determine what parameters have changed or been added.
- Update or customize any new or modified embed files as desired.

3. Regenerate the RTE members and jobs.
  - a. Select **Create the RTE members and jobs**.  
The **\$PARSE /\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
  - b. Select option 1 to submit the composite job.  
TUTORIAL INFORMATION If the updates affect only one set of libraries, you can submit the library-specific job instead of the composite job. Press F5 to create runtime members and jobs in an individual library (WKANCMDU, WKANPARU, or WKANSAMU).  
  
The \$PARSE job takes the product templates from the %RTE\_PLIB\_HILEV%.%RTE\_NAME%. IK\* staging libraries, applies the customized values from the configuration profiles, and creates the runtime members in the work libraries (WK\*).
  - c. Return to the main Workflow panel.
4. Submit the batch jobs necessary to complete the set up of the environment:

- a. Select **Submit batch jobs to complete PARMGEN setup**.  
The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)    KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs    (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIPV
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might need to run one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON for IMS on z/OS is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

**Result**

The maintenance is applied, and any customizations you made are in effect.

## Scenario SMPE04: Upgrading an existing runtime environment with no configuration changes

If you apply maintenance that contains upgraded FMIDs but does not contain features that require configuration changes, you only need to refresh the work libraries (to update the version) and load the read-only files from the SMP/E target libraries to the runtime libraries.

### About this task

If you are upgrading in place (that is using the same target libraries and the same runtime product libraries, follow these instructions. Otherwise, follow [“Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults” on page 199](#) and change the high-level qualifiers as appropriate.

**Note:** If you are upgrading it to V6.3.0 Fix Pack 6 and you have a V6.2.3 z/OS hub monitoring server with SDA enabled and you elected to retain the previous behavior (no granular controls), follow the steps in [“Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults” on page 199](#). If you are upgrading a monitoring server at a version prior to V6.2.3 to V6.3.0 FP6, you must also follow [“Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults” on page 201](#). In the first case, the load job needs to be refreshed to add the REPROKFA step to the load job. In the second scenario, new VSAM libraries need to be allocated, so the KCIJPALO and KCIJPLOD jobs need to be refreshed as well.

Perform an upgrade with no configuration changes involves the following steps:

1. Refreshing the work libraries.
2. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data.

### Procedure

1. Refresh the work libraries.
  - a. From the Workflow main menu, select **Set up PARMGEN work environment for an RTE**. The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- b. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- c. Step through the presented panels by pressing Enter to accept the current configuration values. (On the **Include Products in this PARMGEN RTE** panel, enter y to confirm the current choices.) After you confirm the current product selection, you are prompted to provide a name for the backup copy of the RTE profile.
- d. Provide a name for the backup, then press Enter.  
The KCIJPCFG JCL is displayed.
- e. Review the notes, then submit the job.

The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.

2. Submit the jobs to complete the setup of the RTE.

a. Select **Submit batch jobs to complete PARMGEN setup**.

The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** OR **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.
```

b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might need to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON for IMS on z/OS is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

## Scenario SMPE05: Upgrading an existing runtime environment with configuration changes but using IBM-supplied configuration defaults

Upgraded FMIDs can include new product features that introduce configuration changes (such as new product configuration parameters in RKANPARU(KppENV), or new RK\* runtime members). Typically, these types of configuration changes caused by new product versions are delivered as benign, and IBM-supplied configuration defaults are supplied, so you do not need to customize the configuration profiles to incorporate them. However, you do need to stage the changes by refreshing the work environment and recreating the runtime members and jobs.

### About this task

This scenario involves the following steps:

1. Refreshing the work libraries.
2. Regenerating the RTE members and jobs.
3. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements indicated in ++HOLD data.

**Tip:** Each site has different change-control procedures. Certain sites deploy these types of changes by renaming the current production RK\* libraries to a backup set like RK\*.Dyymmdd, then renaming the latest WK\* set to RK\*. Sample deployment and backup jobs WKANSAMU(KCIJcCPY) and WKANSAMU(KCIJcW2R) provide helpful samples.

To stage the new configuration parameters, complete the following procedure.

### Procedure

1. Refresh the PARMGEN work environment.  
This step update interim libraries and recreates the configuration profiles with any new parameters.
  - a. On the main Workflow panel, specify the name of the runtime environment to which you want to apply maintenance.
  - b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.  
The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Press Enter to continue through the following screens.  
TUTORIAL INFORMATIONOn the Include Products in this PARMGEN RTE panel, change the **Confirm ==> N** field to **Confirm ==> Y** to continue.  
The following panel is displayed:

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----  
Command ==>
```

If you changed any JVM RTE configuration values on the "SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation panels, or changed the configured product mix or upgraded product versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs. You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the resubmission and refresh process. A default backup member is provided. Blank-out the field if you do not want to refresh the profiles.

```
DEMO Backup member name ==> _____ (Required for KCIJPPRF)
```

PARMGEN automatically backs up the RTE profile in TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK\* datasets, rebuilds the profiles with the new values, merges in the profiles values from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

- e. Enter a name for the profile backup member.  
The modified KCIJPCFG job is displayed.
  - f. Submit the job.  
The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Regenerate the RTE members and jobs.
    - a. Select **Create the RTE members and jobs**.  
The **\$PARSE /\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
    - b. Select option 1 to submit the composite job.  
  
TUTORIAL INFORMATION If the updates affect only one set of libraries, you can submit the library-specific job instead of the composite job. Press F5 to create runtime members and jobs in an individual library (WKANCMDU, WKANPARU, or WKANSAMU).  
  
The \$PARSE job takes the product templates from the %RTE\_PLIB\_HILEV%.%RTE\_NAME%. IK\* staging libraries, applies the customized values from the configuration profiles, and creates the runtime members in the work libraries (WK\*).
    - c. Return to the main Workflow panel.
  3. Submit the jobs to complete the setup of the RTE.
    - a. Select **Submit batch jobs to complete PARMGEN setup**.  
The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs    (Yes) KCIJPLOD
4. Run product security steps                (Yes) KCIJPSEC
5. Update variable-named runtime mbrs       (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV  (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files      (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps    (Yes) KCIJPLNK
10. Verify the configuration jobs             (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might have to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON® for IMS™ on z/OS® is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

**Result**

The new product features are implemented and the defaults are in effect.

## Scenario SMPE06: Upgrading an existing runtime environment and overriding defaults

Typically, configuration changes introduced by upgrade FMIDs are delivered as benign, and IBM-supplied configuration defaults are supplied. However, you might need to edit the configuration profiles to exploit a new features or to set custom values for new parameters.

**About this task**

There are four main steps involved in this scenario:

1. Refreshing the work libraries.
2. Editing profiles and overriding embed members, as necessary.
3. Regenerate thing RTE members and jobs.
4. Submitting the jobs that complete the setup of the RTE.

At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD) and copy the updated work libraries to the user runtime libraries (KCIJPW2R). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data.

**Tip:** Each site has different change-control procedures. Certain sites deploy these types of changes by renaming the current production RK\* libraries to a backup set like RK\*.Dyymdd, then renaming the latest WK\* set to RK\*. Sample backup and deployment jobs WKANSAMU(KCIJPCPR) and WKANSAMU(KCIJPW2R) provide helpful samples.

## Procedure

1. Refresh the work libraries.  
This step backs up (renames) the existing LPAR profile, updates the interim libraries, recreates the configuration profiles with any new parameters, and merges the backup profile with the newly created one.
  - a. Select the runtime environment to which you want to apply maintenance.
  - b. From the Workflow - Primary Options Menu, select Set up PARMGEN work environment for an RTE to regenerate and resubmit the KCIJPCFG job.  
The following message is displayed:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Step through the presented panels by pressing Enter to accept the current configuration values.  
(On the Include Products in this PARMGEN RTE panel, enter y to confirm the current choices.)  
After you confirm the current product selection, you are prompted to provide a name for the backup copy of the RTE profile.

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----  
Command ==>
```

If you changed any JVM RTE configuration values on the "SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation panels, or changed the configured product mix or upgraded product versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs. You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the resubmission and refresh process. A default backup member is provided. Blank-out the field if you do not want to refresh the profiles.

DEMO Backup member name ==> \_\_\_\_\_ (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK\* datasets, rebuilds the profiles with the new values, merges in the profiles values from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

- e. Enter a name for the profile backup member.  
The KCIJPCFG job is displayed.
  - f. Review the notes, then submit the job.  
The KCIJPCFG job creates new RTE profiles that contains the new parameters, then runs the KCIJPPRF job. The KCIJPPRF job updates the interim libraries and merges the current values from the backed up profile into the new profiles. Return to the main Workflow panel. Wait until both KCIJPCFG and KCIJPPRF have completed before proceeding to the next step. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Edit profiles and override embeds to customize new features or parameters as required.
    - a. Select **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members** panel is displayed.
    - b. Select the RTE, global, and variables profiles in turn as necessary and make the required customizations. If required, edit the appropriate embed members.

**Tips:**

- In a scenario where you have also added a new product to configure to this runtime environment, ensure that you also customize the new product's *Kpp\_\** PARMGEN profile parameters added into the refreshed RTE configuration profile.
- Compare the updated \$CFG\$IBM and \$GBL\$IBM to your customized profiles to determine what parameters have changed or been added.
- Update or customize any new or modified embed files as desired.

3. Regenerate the RTE members and jobs.
  - a. Select **Create the RTE members and jobs**.  
The **\$PARSE /\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
  - b. Select option 1 to submit the composite job.  
  
TUTORIAL INFORMATION If the updates affect only one set of libraries, you can submit the library-specific job instead of the composite job. Press F5 to create runtime members and jobs in an individual library (WKANCMU, WKANPARU, or WKANSAMU).  
  
The \$PARSE job takes the product templates from the %RTE\_PLIB\_HILEV%.%RTE\_NAME%. IK\* staging libraries, applies the customized values from the configuration profiles, and creates the runtime members in the work libraries (WK\*).
  - c. Return to the main Workflow panel.
4. Submit the batch jobs necessary to complete the set up of the environment:
  - a. Select **Submit batch jobs to complete PARMGEN setup**.  
The Submit Batch Jobs to Complete PARMGEN Setup menu is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
   ** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.

```

- b. Submit the following jobs and any other jobs indicated by a Yes in the REQ column.

**KCIJPLOD**

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

**KCIJPW2R/KCIJPW1R**

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. You must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

You might have to submit one or more of the following jobs:

- KCIJPSEC (if upgrade introduces changes in security) to create security-related members (load modules, encryption key, and other elements) based on the product security requirements
- KCIJPALO (if the upgrade introduces new data sets are introduced)
- KCIJPUSP and KCIJcUSS (if upgrade introduces changes in z/OS® UNIX® System Services requirements)
- KCIJPLNK (if OMEGAMON for IMS on z/OS is installed)
- KCIJPSYS (if upgrade introduces new started tasks or nodes)

**Result**

The runtime environment is upgraded and any values you customized are in effect.

**Scenario SMPE07: Staging an upgrade using a cloned environment**

By cloning runtime environments (RTEs) and installing new versions into the cloned environments, you can continue to apply maintenance to and reconfigure RTEs that contain previous versions of products and components. You create a runtime environment (RTE) that contains the same product set and configuration values as the old environment, but which contains upgraded versions of products and components. You install new product versions in a new set of SMP/E target libraries, point the runtime environment at the new libraries, clone the work and production libraries from an old environment, and then merge its configuration values into a

new RTE with the same name that points to the new installation libraries. In the process, you upgrade any products and components installed in the old environment.

**Note:** This scenario assumes a PARMGEN to PARMGEN upgrade.

## About this task

This task involves the following steps:

1. Installing the products into a new set of SMP/E target libraries.
2. Cloning the GBL\_USER\_JCL global library.
3. Setting up the new PARMGEN work environment.
4. Cloning the WCONFIG members from the model runtime environment.
5. Updating the interim libraries and create the configuration profiles for the new environment.
6. Merging the values from the model LPAR configuration profiles.
7. (Conditional) Customizing the profile parameter values.
8. Creating the runtime members and jobs.
9. Submitting the jobs to create the runtime environment.

## Procedure

1. Install the products into a new set of SMP/E target libraries using the Install Job Generator (JOBGEN).
  - a. Launch the installation and configuration software in an existing installation:

```
EX '%HILEV%.%MIDLEV%.TKANCUS'
```
  - b. On the Welcome page, select option 4 (SMP/E-install z/OS® products with Install Job Generator).
  - c. Supply the values as prompted.
  - d. Submit the file-tailored KCIJG\* SMP/E jobs to complete the installation.
  - e. Exit JOBGEN and then exit the software configuration software.
2. Clone the GBL\_USER\_JCL global library for runtime environments (the library specified by the CONFIG DD statement in started tasks) to the new high-level qualifier.
  - a. Clone %GBL\_USER\_JCL%.
  - b. In the cloned %GBL\_USER\_JCL% library, edit the member named KCIDJP02.
  - c. Do an EXCLUDE FIND on GBL\_USER\_JCL and change all references to the original data set to the name of the cloned GBL\_USER\_JCL data set.  
For example:



The KCIJPCFG job submits a second job, KCIJPPRF, to update the libraries and generate the profiles. Wait until both jobs have completed before returning to the Workflow - Primary Options Menu. The status code on the panel is not updated with a return code until both jobs have completed.

4. Clone the WCONFIG members for the new RTE from the model RTE's WCONFIG library:
  - a. On the Workflow - Primary Option Menu panel, type UTIL on the command line.  
The Utilities panel is displayed.

```

KCIPQPGU ----- UTILITIES -----
Option ==>                                     Scroll ==> PAGE

More: +

Enter n (0-37) to perform tasks.
Enter ns* (15s* - 19s, 23s, 27s) if a task generates a report ($DLARPT DLA
report, $VALRPT validation report), or if a task generates a dataset/member
to review (DLA IDML dataset/books, DLA RTE/$GBL$USR, WSUPER dataset).
See Utility options/shortcut commands help topic for more information.

Process a Runtime Environment (RTE) or perform cross-RTE functions:
  0. Runtime Environments (RTEs)

Display/Edit a dataset member list:
  1. WKANCMDU          TDITN.IDTST.DEMO.WKANCMDU
  2. WKANPARU         TDITN.IDTST.DEMO.WKANPARU
  3. WKANSAMU         TDITN.IDTST.DEMO.WKANSAMU
  4. WKD2PAR          TDITN.IDTST.DEMO.WKD2PAR
  5. WKD2PRF          TDITN.IDTST.DEMO.WKD2PRF
  6. WKD2SAM          TDITN.IDTST.DEMO.WKD2SAM
  7. WCONFIG           TDITN.IDTST.DEMO.WCONFIG
  8. GBL_USER_JCL     TDITN.IDTST.PARMGEN.JCL
  9. RTE_X_SECURITY_EXIT_LIB TDITN.IDTST.DEMO.RKANSAMU
 10. GBL_DSN_GLOBAL_SOURCE_LIB TDITN.IDTST.DEMO.RKANPARU

Display a README:
 11. Display $JOBINDX index list of PARMGEN batch jobs/RTE maintenance jobs
 12. Display a consolidated list of What's New component READMEs.
 13. Display a consolidated list of post-configuration READMEs.
 14. Display components installed and configured in DEMO RTE.

Submit a utility job (Autodiscovery):
      Description                                     Job/Label
**Note: Submit 15 composite job or submit 16-18 function jobs.
-----
 15. Composite PARMGEN z/OS Discovery Library Adapter (DLA) job. KCIJPDLA
      ** or **
 16. Create the z/OS DLA IDML books on active z/OS resources. KCIJPD11
 17. Generate PARMGEN $DLARPT report from DLA IDML books dataset. KCIJPD12
 18. Refresh DEMO/$GBL$USR user profiles with $DLARPT data. KCIJPD13

 19. Generate $SYSVAR autodiscovered system/user symbols report. $PARSEDV

Submit a utility job (Maintenance):
      Description                                     Job/Label
-----
 20. Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPP11
 21. Convert an ICAT RTE Batch member. KCIJPCNV
 22. Merge profile from a backup LPAR RTE profile. KCIJPMCF
 23. Validate PARMGEN profile parameter values. KCIJPVAL
 24. Back-up WK* work user libraries. KCIJPCPW
 25. Back-up RK* product execution user libraries. KCIJPCPR
 26. Recall migrated DEMO RTE datasets. KCIJPHRC
 27. Compare work and runtime user libraries. KCIJPSPC
 28. Empty runtime members in RK* user libraries. KCIJPMTY
 29. Copy WK*->RK* user libraries keeping EXCLUDE members. KCIJPW1R
 30. Restore back-up user libs. to current set. KCIJPB2R
 31. Resolve system symbolics in PARMGEN jobs. KCIJVSrv
 32. Collect diagnostic information for this RTE. KCIJPCOL
 33. Delete RTE: DEMO KCIJPD11

Submit a utility job (Clone/Transport):
      Description                                     Job/Label
-----
 34. Clone customized WCONFIG members. KCIJPCCF
 35. Allocate read-only base RK* libraries. KCIJPBSA
 36. Load read-only base RK* libraries. KCIJPBSL
 37. Clone customized data from another RTE. KCIJPCLN

Press F1=Help for more information.

```

- b. Page down if necessary and select **Clone customized WCONFIG members** (option 24). The WCONFIG(KCIJPCCF) job is presented.
- c. Review the job to determine if you need to further modify the library concatenated in the OLDWCNFG DDNAME.  
By default, this DDNAME already points to the WCONFIG library that you specified in the RTE profile library field of the first work environment set-up panel. If necessary, modify the job to point

to an existing WCONFIG library that contains the customized members you want cloned over to the WCONFIG library for the new runtime environment.

- d. Submit the job and return to the main Workflow panel.
5. Customize the PARMGEN configuration profiles.
    - a. From the Workflow main menu, select **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** panel is presented. Customization of the RTE profile is required. Customization of the \$GBL\$USR global profile is optional, but you might want to review the profile to determine if there are changes you want to make.
    - b. Select option 1 and change all instances of \*HILEV\* in the RTE profile to the high-level qualifier for the new environment.

TUTORIAL INFORMATION If you made any changes to the corresponding RTE values on the KCIP@PG3 panel, make the same changes to the *Kpp* versions of the following parameters:

- Started task prefixes
- VTAM applid prefixes
- Port numbers
- RTE high-level qualifier
- VSAM high-level qualifier

If the new FMIDs contain new components or configuration values you want to customize further, you can also make those changes. See [Customizing the configuration profiles](#) for more information about parameters typically customized in the RTE profile.

If you intend to clone customized data such as monitoring situations stored in VSAM data sets or enhanced 3270UI profiles or workspaces stored in UKANWENU or UKOBDATF data sets, set the following two parameters:

- **RTE\_CLONE\_FROM\_HLQRTE**
- **RTE\_CLONE\_FROM\_VSAM\_HLQRTE**

- c. Press F3 to close and save the RTE configuration profile and return to the Customize PARMGEN Configuration Profile Members panel.
  - d. Select 2 to review the \$GBL.\$USR profile and make any appropriate changes. See [Customizing the global configuration profile](#) for parameters that should be reviewed.
  - e. Press F3 to exit the \$GBL.\$USR profile.
  - f. For an RTE with variable support enabled: If you kept the same RTE name, the variables profile from the original RTE has been cloned. If you gave the RTE a new name, you must replace the contents of the new GBL\_USER\_JCL(%RTE\_NAME%) variables member with the contents of the variables profile of the cloned RTE. You can also rename the GBL\_USER\_JCL(%RTE\_NAME%) members of the cloned RTE to the name of the new RTE. Review the variables profile to determine if you need to make any changes for this RTE.
  - g. Return to the main Workflow panel.
6. Create the runtime members and jobs.
    - a. Select **Create the RTE members and jobs** from the Workflow main menu. The Submit \$PARSE Batch Jobs to Complete PARMGEN Setup panel is displayed.
    - b. Select option 1 to submit the generated \$PARSE composite job. The \$PARSE member is presented.
    - c. Review the member for any jobs that need to be submitted manually, then submit the job. Return to the main Workflow panel.
  7. Submit the batch jobs to set up the RTE.
    - a. Select **Submit batch jobs to complete PARMGEN setup** from the Workflow main menu. The Submit Batch Jobs to Complete PARMGEN Setup (KCIP@SUB) panel is displayed.
    - b. Select option 1 if you want to submit the KCIJPSUB composite SUBMIT job, or select the other options to submit each job individually. If you select option 1, review the KCIJPSUB job first, and edit the job according to which of the conditional jobs need be submitted automatically and which need to be submitted manually (for example, for reasons of authorization).

- c. Submit the job.

## Result

You have cloned and upgraded the selected runtime environment.

## What to do next

Complete any configuration steps required outside the software. Then repeat steps 2 - 8 for every runtime environment you want to upgrade.

**Important:** The cloned environment inherits configuration values from the original RTE, including started task names. However, if the RTEs use the same PROCLIB, there can be only one set of STCs. The simplest way to deal with this is to create a temporary PROCLIB on the system or systems you upgrade that contain the new procedures. Then, once every RTE is upgraded, copy the procedures from the temporary PROCLIB to the normal PROCLIB. You might want to schedule a change control window when you can switch libraries.

## Runtime environment reconfiguration scenarios

After you have set up your runtime environments, you may occasionally need to modify them. For example, you might need to add, reconfigure, or delete products, or you might need to change parameter values to tune monitoring performance. The steps you take to reconfigure the RTE depend upon the scenario you are enacting.

### Scenario RTE01: Adding a new product to an existing PARMGEN runtime environment

You have an existing runtime environment (RTE) to which you want to add a new product. The product is SMP/E installed, but it is not yet configured in the RTE.

#### About this task

The key to adding a new product to an existing RTE is the Include Products in this PARMGEN RTE panel (KCIP@PGI). You regenerate the KCIJPCFG setup job and add the new product by selecting it on the Include Products panel. After you submit the job, the RTE configuration profile is updated with the parameters for that product. Then, you can customize those parameters by editing the profile. You run the \$PARSE job to recreate the runtime members and jobs, and then resubmit the jobs to complete the reconfiguration of the RTE with the new product.

#### Procedure

1. Recreate the work environment.  
This step adds the new product, updates interim libraries, and recreates the configuration profiles with any new parameters for the new product.
  - a. Select the RTE to which you want to add the product by providing the fully-qualified RTE name (RTE\_PLIB\_HILEV and RTE\_NAME).
  - b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.  
The following message is displayed, notifying you that you need to resubmit the modified KCIJPCFG job after you make changes:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Press Enter until the Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed.  
Any products already configured into the environment are indicated by a slash (/).
- e. Select the new product you want to include by typing a slash (/) next to its product code.  
In the following example, a monitoring server, the OMEGAMON® enhanced 3270 user interface, and all of the OMEGAMON® products except OMEGAMON® for Storage are already configured in the runtime environment. To add OMEGAMON® for Storage, a slash is placed next to KS3.

```

----- INCLUDE PRODUCTS IN THIS PARMGEN RTE - Row 1 to 19 of 26
Command ==>                               Scroll ==> PAGE

Select (/) product(s) to CONFIGURE those product(s) in RTE=PLB1SP13
Products configured in the model RTE have been preselected (/).
Select or deselect products to include or exclude from configuration.

When finished, change "N" to "Y" to confirm selections.  Confirm ==> N (Y, N)

  Kpp  Product Name/Version
-----
- KAH  System Automation Monitoring Agent V350
- KC5  OMEGAMON for CICS V550
/ KDO  Tivoli Decision Support for z/OS Agent V181
- KDS  Tivoli Enterprise Monitoring Server V630
/ KD4  ITCAM for SOA Agent V711
- KD5  OMEGAMON® AI for Db2 V610
- KGW  OMEGAMON for CICS TG V550
/ KI5  OMEGAMON for IMS V550
- KJJ  OMEGAMON for JVM V540
- KMC  OMEGAMON for Messaging - WebSphere MQ Configuration V730
/ KMQ  OMEGAMON for Messaging - MQ V750
- KM5  OMEGAMON for z/OS V550
/ KNA  NetView for z/OS Agent V621
/ KN3  OMEGAMON for Networks V550
- KOB  OMEGAMON Enhanced 3270 User Interface V750
- KQI  OMEGAMON for Messaging - Integration Bus V750
- KRG  Advanced Audit for DFSMSshm Agent V260
- KRH  Advanced Reporting and Management for DFSMSshm Agent V260
- KRJ  Advanced Allocation Management Agent V330
- KRK  Automated Tape Allocation Manager for z/OS Agent V330
- KRN  Advanced Catalog Management Agent V260
- KRV  Advanced Backup and Recovery for z/OS Agent V240
- KRW  Tape Optimizer for z/OS Agent V220
- KS3  OMEGAMON for Storage V540
- KYN  ITCAM for Application Diagnostics, TEMA V710.03
/ KS3  IBM® OMEGAMON® for Storage on z/OS® V540
- KW0  IBM Tivoli OMEGAMON DE on z/OS - OMEGAVIEW and OMEGAVIEW II V510
- KYN  ITCAM for Application Diagnostics on z/OS V710.03
End of data

```

- f. Type Y in the **Confirm ==>** field, then press Enter to continue.  
The following panel is displayed:

```

KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----
Command ==>

If you changed any JVM RTE configuration values on the
"SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation
panels, or changed the configured product mix or upgraded product
versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs.
You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the
resubmission and refresh process.  A default backup member is provided.
Blank-out the field if you do not want to refresh the profiles.

  DEMO Backup member name  ==>  _____  (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in
TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK* datasets,
rebuilds the profiles with the new values, merges in the profiles values
from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

```

- g. Type a name for the profile backup member and press Enter.

The modified KCIJPCFG job is displayed.

- h. Submit the job.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the libraries and merges the backed up profile with the newly generated one containing the new product parameters.
  - i. Return to the Workflow - Primary Options Menu. Wait until both jobs have completed. No return code is displayed on the Workflow main panel until both jobs have completed.
2. Edit the configuration profiles, as required.  
TUTORIAL INFORMATION See the *Planning and Configuration Guide* and *Parameter Reference* for the new product for information on parameters that you might want to customize or features you might want to enable. Note that the new product inherits any global runtime environment parameters specified in the Set up PARMGEN Work Environment for an RTE (3 OF 3) panel (KCIP@PG3), such as started task prefixes.
  3. Recreate the RTE members and jobs.
    - a. From the Primary Options Menu, select **Create the RTE members and jobs**.  
The \$PARSE/\$PARSESV: Create the RTE Members and Jobs (KCIP@PRS) panel is displayed.
    - b. Select option 1 to submit the generated \$PARSE or \$PARSESV composite job.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

      Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles. KCIJPUP1
1. Create runtime members/jobs in all WK* libs. $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.
```

Note that you see the second option only if the RTE is enabled for variables.

The \$PARSE or \$PARSESV member is presented.

- c. Review the member for any jobs that need to be submitted manually, then submit the job.  
Return to the Workflow - Primary Options Menu.
4. Submit the batch jobs to complete reconfiguration of the RTE.
    - a. From the Primary Options Menu, select **Submit batch jobs to complete PARMGEN setup**.  
The Submit batch jobs to complete PARMGEN setup (KCIP@SUB) is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)   KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps               (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs      (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Select option 1 to submit the KCIJPSUB composite submit job, or select the other options to submit each job separately.  
If you select option 1, first review the KCIJPSUB job, and edit the job according to which of the conditional jobs can to be submitted automatically.
- c. Check for good condition codes.

**Note:** The WSUPERC step will encounter an informational condition code of 4 if OMEGAMON® AI for Db2 is not configured in this runtime environment as there are no xKD2\* libraries to compare.

- d. If you do not receive good condition codes, review the resulting output:
  - \$IVPRPT report, which is stored in the WCONFIG library
  - WSUPERC SYSTSPRT report, which is stored in the WSUPERC sequential library

Correct any errors, and rerun any jobs that did not complete successfully.

### What to do next

See the *Planning and Configuration Guide* for the new product to complete any configuration steps required outside the configuration software.

## Scenario RTE02: Upgrading a single product or component in an existing runtime environment

If the runtime environment (RTE) is pointing to the target libraries where the new version is SMP/E installed, the product is automatically upgraded when you refresh the work environment.

### Procedure

1. Refresh the PARMGEN work environment to include the latest installed version of the product. This step updates interim libraries and recreates the configuration profiles with any new parameters introduced by the upgrade.
  - a. Identify the RTE in which you want to upgrade the product by specifying the fully-qualified name of the RTE (**RTE\_PLIB\_HILEV** and **RTE\_NAME**).
  - b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.

The following message is displayed, notifying you that you need to resubmit the modified KCIJPCFG job:

```
KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

While configuring an existing RTE profile, you have asked to
navigate to the KCIJPCFG option to review or make changes to the
KCIJPCFG job, which was run with highest condition code RC= 00000
on 2017/07/27. In most cases, if you change any KCIJPCFG
parameters, you will have to rerun the KCIJPCFG job and certain
subsequent PARMGEN configuration jobs.

Press ENTER to continue with KCIJPCFG changes.

Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
- d. Press Enter until the Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed.  
The products already configured into the environment are indicated by a slash. However, the version currently installed in the target libraries is displayed, not the version currently configured. If the versions are different, the product is upgraded to the version shown when you submit the KCIJPCFG job.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
  -----
 / KAH System Automation Monitoring Agent V350
 / KC5 OMEGAMON for CICS V550
 / KDO Tivoli Decision Support for z/OS Agent V181
 / KDS Tivoli Enterprise Monitoring Server V630
 / KD4 ITCAM for SOA Agent V711
 / KD5 OMEGAMON for DB2 PE V550
 / KGW OMEGAMON for CICS TG V550
 / KI5 OMEGAMON for IMS V550
 / KJJ OMEGAMON for JVM V540
 / KMQ OMEGAMON for Messaging - MQ V750
 / KM5 OMEGAMON for z/OS V550
 / KNA NetView for z/OS Agent V621
 / KN3 OMEGAMON for Networks V550
 / KOB OMEGAMON Enhanced 3270 User Interface V750
 / KQI OMEGAMON for Messaging - Integration Bus V750
 / KRG Advanced Audit for DFSMSHsm Agent V260
 / KRH Advanced Reporting and Management for DFSMSHsm Agent V260
 / KRJ Advanced Allocation Management Agent V330
 / KRK Automated Tape Allocation Manager for z/OS Agent V330
 / KRN Advanced Catalog Management Agent V260
 / KRV Advanced Backup and Recovery for z/OS Agent V240
 / KRW Tape Optimizer for z/OS Agent V220
 / KS3 OMEGAMON for Storage V540
 / KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

- e. Specify Y in the **Confirm ==>** field to confirm the current selection of products, then press Enter to continue.  
The following panel is displayed:

```
KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----  
Command ==>
```

```
If you changed any JVM RTE configuration values on the  
"SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation  
panels, or changed the configured product mix or upgraded product  
versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs.  
You must also refresh the PARMGEN profiles.
```

```
Specify a backup member name for the LPAR RTE to automate the  
resubmission and refresh process. A default backup member is provided.  
Blank-out the field if you do not want to refresh the profiles.
```

```
DEMO Backup member name ==> _____ (Required for KCIJPPRF)
```

```
PARMGEN automatically backs up the RTE profile in  
TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK* datasets,  
rebuilds the profiles with the new values, merges in the profiles values  
from the backed-up LPAR RTE user profile, and generates a delta report.
```

```
Press F1 for information about the automated process.
```

- f. Type a name for the profile backup member and press Enter.  
The modified KCIJPCFG job is displayed.
  - g. Submit the job.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the libraries and merges the backed up profile with the newly generated one containing the new version of the product. Wait until both jobs have completed and you receive a successful return code before proceeding to the next step.
2. The next steps depend on whether or not you have configuration changes to make:
- If you do not need to make any further configuration changes (for example, you can use the product defaults and no new features need to be configured), regenerate the RTE members and jobs by submitting the \$PARSE (or \$PARSESV) job and submit the jobs that complete the setup of the RTE.
  - If you want to exploit new configuration changes (such as enabling the self-describing agent feature) or override the product-supplied configuration defaults, edit the configuration profiles as necessary. Then regenerate the RTE members and jobs by submitting the \$PARSE (or \$PARSESV) job and submit the jobs that complete the setup of the RTE.
  - At a minimum, you need to copy the SMP/E target libraries to the read-only runtime libraries (KCIJPLOD job) and the updated work libraries to the user libraries (KCIJPCPR and KCIJPW2R jobs). You might need to run additional jobs, depending upon product-specific requirements spelled out in ++HOLD data..

## What to do next

Select the **Perform post configuration steps** in the PARMGEN Workflow - Primary Option Menu to the readmes for the installed products. See also the *Planning and Configuration Guide* for the upgraded product for any configuration steps that need to be completed outside the configuration software.

## Scenario RTE03: Changing parameters in an RTE

After the initial configuration, you might need to change, add, or delete parameter values in the runtime environment (RTE) configuration profile.

For example, you might not want to enable security for the Tivoli® Enterprise Portal or the enhanced 3270 user interface logon until you have verified that all components are configured and communicating correctly. After you have verified that you can successfully view data in the Tivoli® Enterprise Portal client or the OMEGAMON® Enhanced 3270 user interface, you can go back and set **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** to Y to enable authentication of Tivoli® Enterprise Portal user IDs and passwords. Or you can enable security for the enhanced 3270 user interface by providing a security authorization facility (SAF) resource class using the **RTE\_SECURITY\_CLASS** parameter.

### About this task

This task involves three main steps:

1. Editing the configuration profiles as necessary.
2. Recreating the RTE and jobs by submitting the appropriate \$PARSE/\$PARSESV job.

3. Copying the runtime members from the work libraries to the production libraries by using the KCIJPW2R job.

If system variables are enabled in the RTE, you must also run the KCIJPUPV job to populate variable-named members application-specific *KppJPUPB* composite IEBUPDTE members in the WK\* work output libraries, before you run the KCIJPW2R job.

The WCONFIG(\$PARSE) composite job (or the \$PARSESV job if the runtime environment is enabled for variables) copies all IK\* interim libraries to WK\* user libraries. If you need to regenerate only the parameters in a single library, you can also submit the library-specific \$PARSE%% jobs (where %% = CM for CMDU, SM for SAMU, PR for PARU) in WCONFIG. You can specify a specific member or set of members within each library to regenerate.

For example, if you are adding a new parameter to the WCONFIG(KAG\$PENV) global agent override imbed and the WCONFIG(KDS\$PENV) monitoring server override imbed, you only need to update the WKANPARU(*KppENV*) members. Similarly, if you make a change to the **KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST** and the 25 **Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST** KDEB\_INTERFACELIST parameters that need to be implemented globally across all products, only the WKANPARU(\*ENV) members need to be reprocessed by \$PARSEPR.

To implement this example scenario, edit the SELECT MEMBER=(\*) statement in the USER SECTION: CONFIG/SELECT MEMBER section of the \$PARSEPR job to SELECT MEMBER=(\*ENV):

```

EDIT      IBM.userid.LPAR1.WCONFIG($PARSEPR)
Command ==>
000110 * ----- BEGIN - USER SECTION: CONFIG/SELECT MEMBER ----- *
000111 * *****
000112 * USER SECTION: CONFIG/SELECT MEMBER *
000113 * *****
.
000121 CONFIG MEMBER=(WCONFIG:$GBL$IBM)
000122 * 4. $CFG$IBM IBM-supplied PARMGEN CONFIG profile (RTE-specific)
000123 CONFIG MEMBER=(WCONFIG:$CFG$IBM)
000124 * 5. $GBL$USR Customer-overridable PARMGEN CONFIG profile (SMP-related
000125 * and other global parameters)
000126 * Note: (OPTIONAL) Customize WCONFIG:$GBL$USR accordingly. It is
000127 * ideal for copying to other WCONFIG RTEs if these global system
000128 * libraries are typically the same across LPARs.
000129 CONFIG MEMBER=(WCONFIG:$GBL$USR)
000130 * 6. TESTSYSG Customer-overridable PARMGEN CONFIG profile
000131 * (RTE-specific applicable to this LPAR)
000132 CONFIG MEMBER=(WCONFIG:LPAR1)
000133 SELECT MEMBER=(*ENV)
000134 * ----- END - USER SECTION: CONFIG/SELECT MEMBER ----- *

```

This change tells the \$PARSEPR job to recreate only the \*ENV members.

You can also code SELECT MEMBER=( \*ENV, K??SYSIN) if you want to regenerate only the *KppENV* members, and all members matching the K??SYSIN wildcard. These are just a few examples how flexible the SELECT MEMBER= parameter is.

Note that the library-specific \$PARSE%% jobs regenerate the runtime members in the PARMGEN work libraries (such as WKANPARU and WKANCMDU) because PARMGEN supports a staged deployment and does not update the running production user libraries and execution libraries (such as RKANPARU and RKANCMDU). You must run the WKANSAMU(KCIJPW2R) job to deploy runtime members from the WK\* libraries to the RK\* production user libraries. However, if you would like the \$PARSE\* jobs to update the production user libraries directly, without having to run KCIJPW2R, update the SYSUT2 DD to point to RK\* instead of the WK\* PARMGEN work libraries, as shown in the example \$PARSEPR job:

```

EDIT      IBM®.userid.LPAR1.WCONFIG($PARSEPR)
Command ==>
000091 /* *****
000092 /* WKANPARU Step: IKANPARU-->WKANPARU
000093 /* Process the PARMGEN members from IKANPARU to WKANPARU based on $CFG*
000094 /* CONFIG and/or converted PARMGEN RTE Batch deck profile settings.
000095 /* *****
000096 //WKANPARU EXEC PGM=KCIPARSE,
000097 // PARM='MV=32000,MAXL=32000,ML=500,MI=255,MS=20000,LV=Y,LG=10'
000098 //STEPLIB DD DISP=SHR,
000099 //          DSN=IBM.TARGET.TKANMOD
000100 //INPUT1  DD DISP=SHR,
000101 // DSN=IBM.ITM62351.LPAR1.IKANPARU
000102 //INPUT2  DD DISP=SHR,
000103 // DSN=IBM.ITM62351.LPAR1.WKANPARU
000104 //WCONFIG DD DISP=SHR,
000105 // DSN=IBM.ITM62351.LPAR1.WCONFIG
000106 //SYSUT2  DD DISP=SHR,
000107 // DSN=IBM.ITM62351.LPAR1.WKANPARU <<<-- change to RKANPARU

```

To test the parameter changes quickly before moving the members from WK\* to RK\* production user-libraries, modify the new USER%%U PROC symbols in the PARMGEN-created started tasks to run from the WK\* libraries.

Complete the following procedure to change configuration parameters.

## Procedure

1. Edit the configuration profile.
  - a. Select the RTE in which you wish to upgrade the product by specifying the fully-qualified name of the RTE (%RTE\_PLIB\_HILEV%. %RTE\_NAME%).
  - b. From the **Workflow - Primary Options Menu**, select **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** panel is displayed.
  - c. Select option 1 to edit the RTE configuration profile. The profile member is displayed.
  - d. Complete the necessary changes. For example, locate the **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** parameter and change N to Y. Edit the values for all required related parameters, such as **RTE\_SECURITY\_USER\_LOGON** to specify what security system is used to validate Tivoli® Enterprise Portal users.
  - e. Save the changes and return to the **Workflow - Primary Options Menu** panel.
2. Recreate the runtime environment members and jobs.
  - a. From the menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel is displayed.
  - b. Select the \$PARSE (or \$PARSESV) composite job or the appropriate \$PARSE%% library-specific job. The JCL is presented.
  - c. Review the job and make any required adjustments, then submit it and return to the **Workflow - Primary Options Menu** panel.
3. Edit and submit the batch jobs to complete the setup.
  - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu. The **Submit Batch Job to Complete PARMGEN Setup** panel is displayed.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                                REQ  Job Name  Status  Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
   ** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs    (Yes) KCIJPLOD
4. Run product security steps                (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files     (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs      (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps   (Yes) KCIJPLNK
10. Verify the configuration jobs           (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.

```

- b. If system variables are enabled, select option 5 and submit the KCIJPUPV job.
- c. (Optional, but best practice) Select option 11 and submit the KCIJPCPR job to backup the production libraries.
- d. Select option 12 and submit the KCIJPW2R job to copy the work libraries to the production libraries.

## Result

The configuration profile for the RTE is updated.

## Scenario RTE04: Converting a hub monitoring server to a remote

If you add a high-availability hub, or you clone a runtime environment (RTE) which has a hub monitor server in it, you might need to convert a hub monitoring server to a remote. In addition to converting the monitoring server, you must configure it to report to a hub.

### Before you begin

Launch the PARMGEN Workflow interface as described in .

### Procedure

1. Select the RTE in which you want to convert the monitoring server by specifying the fully-qualified name of the RTE (**RTE\_PLIB\_HILEV** and **RTE\_NAME**).
2. From the Primary Options menu, select **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** panel is displayed.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

    *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
    *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
    *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
        global library (TDITN.IDTST.PARMGEN.JCL).
        Add/Modify system/user-defined symbols and their
        resolution values, for override variables used as parameter
        values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
    4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

    5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
    6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
    7. $SYSIN $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.

```

3. Select option 1 to edit the RTE configuration profile.
4. Reconfigure the monitoring server as follows.

#### TUTORIAL INFORMATION

If the environment is enabled for system variables, use variables to configure these values. You will also need to customize the variables profile before returning to the main Workflow panel.

- a. Change the **KDS\_TEMS\_TYPE** value from HUB to REMOTE.

```

ISREDDE2 TSTEST.&userid.LPAR1.WCONFIG(LPAR1)
Command ==>
***** ***** Top of Data *****
000602 KDS$ BEGIN *----- TIVOLI ENTERPRISE MONITORING SERVER -----*
000603 ** *****
000604 ** PARMGEN CONFIG Parameter PARMGEN CONFIG Value
000605 ** *****
000606
000607 ** TEMS configuration values:
000608 KDS_TEMS_TYPE REMOTE * HUB or REMOTE *
***** ***** Bottom of Data *****

```

- b. Do an EXCLUDE FIND on all **KDS\_HUB** references. (For information on the XF ("EXCLUDE FIND") macro, see ["XF edit macro" on page 426.](#)) Then specify the values for the hub to which this remote monitoring server will connect.

```

SP22      TSTEST.&userid.LPAR1.WCONFIG(DEMO)
Command ==> XF KDS_HUB                               Scroll ==> CSR
000829
000830 ** Note: The KDS_HUB_* values populate the xKANPARU(KDCSSITE) member
000831 **      that Remote TEMS reads to know how to connect to its Hub.
000832 KDS_HUB_TEMS_NAME_NODEID      "PLBHUB"
000833
000834 ** If the TEMS is a Remote and requires VTAM SNA support:
000835 KDS_HUB_VTAM_APPL_GLB_BROKER   ""      * Hub KDS_TEMS_VTAM_APPL_GLB_BROKER
000836 KDS_HUB_VTAM_NETID             ""      * Hub KDS_TEMS_VTAM_NETID
000837
000838 ** If the TEMS is a Remote and requires TCP/IP support:
000839 KDS_HUB_TCP_HOST               "OMEGHUB"
000840
000841 ** If the TEMS is a Remote, specify port numbers of its Hub:
000842 KDS_HUB_TCP_PIPE_PORT_NUM       nnnnn  * Hub KDS_TEMS_TCP_PIPE_PORT_NUM
000843 KDS_HUB_TCP_UDP_PORT_NUM        nnnnn  * Hub KDS_TEMS_TCP_UDP_PORT_NUM
000844 KDS_HUB_TCP_PIPE6_PORT_NUM      ""      * Hub KDS_TEMS_TCP_PIPE6_PORT_NUM
000845 KDS_HUB_TCP_UDP6_PORT_NUM       ""      * Hub KDS_TEMS_TCP_UDP6_PORT_NUM
000846 KDS_HUB_TCP_PIPE6S_PORT_NUM     ""      * Hub KDS_TEMS_TCP_PIPE6S_PORT_NUM
000847 KDS_HUB_TCP_PIPE6S_PORT_NUM     ""      * Hub KDS_TEMS_TCP_PIPE6S_PORT_NUM
- - - - - 853 Line(s) not Displayed
***** ***** Bottom of Data *****

```

- c. Press F3 to save the changes and return to the main Workflow panel.
5. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV : Create the RTE Members and Jobs** panel is displayed.

**Note:** If you are reconfiguring an RTE in which variables are enabled, the \$PARSESV panel is displayed instead of \$PARSE, as in the following example.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.

```

6. Select option 1 to submit the generated \$PARSE (or \$PARSESV) composite job.  
The JCL for the \$PARSE (or \$PARSESV) job is displayed.
7. Review the job and submit it, then return to the main Workflow panel.

**Tip:** If you receive a bad return code (over 0004), enter 3s to view detailed status for the job. Use the online help to understand the error messages.

8. From main menu, select **Submit batch jobs to complete PARMGEN setup**  
The **Submit Batch Jobs to Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.
9. Depending upon your environment, complete one of the following sets of steps:
  - If your environment does not have system variables enabled:
    - a. Select option 1 to submit the KCIJPSUB composite submit job, or, to submit each job individually, select the other options.

```

KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP
-----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

Date                Description                REQ Job Name  Status
-----
-----
+
1. Composite SUBMIT job (See JCL comments)      KCIJPSUB
   ** or **

2. Allocate runtime RO and RW datasets          (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs       (Yes) KCIJPLOD
4. Run product security steps                   (Yes) KCIJPSEC
5. Update variable-named runtime mbrs          (No ) KCIJPUPV

6. (Re)Create USS runtime mbrs in RKANDATV     (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files        (Yes) KCIJPUSP
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS

9. Run post-SMP/E RKANMODU ASM/LINK steps      (Yes) KCIJPLNK
10. Verify the configuration jobs               (Tip) KCIJPIVP

11. Back-up RK* product execution user libs    (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs    (Yes) Enter 12 for details.

Press F1=Help for more information.  Type UTIL to access utility menu.

```

If you select option 1, first review the KCIJPSUB job, and edit the job according to which of the conditional jobs need to be submitted automatically.

- If your environment has system variables enabled:
  - a. On the Submit Batch Jobs to Complete PARMGEN Setup, select option 1 if you want to submit the KCIJPSUB composite SUBMIT job, or select the other options to submit each job individually. If you select option 1, review the KCIJPSUB job first and edit the job according to which conditional jobs need be submitted automatically. If you select option 1, you are prompted with the following message:

```

----- PARMGEN MESSAGES
-----
Command ==>

The KCIJVSUB composite job submits several PARMGEN
configuration jobs via TSO SUBMIT commands. Some of
those SUBMIT commands are commented out. Carefully
review the comments in the JCL to determine which
of those jobs you do or do not want to submit.
Uncomment the SUBMIT commands of those jobs that
you want to submit.

Do NOT delete any SUBMIT commands as they may be
needed in the future.

```

- b. Press Enter.  
The following message is displayed:

```

----- PARMGEN MESSAGES
-----
Command ==>

In a system variable environment, job KCIJVSUB runs $PARSESV
to customize then submit the KCIJPSUV job. EDIT and modify
the KCIJPSUV job as appropriate. See comments in the JCL for
further information.

DO NOT MANUALLY SUBMIT THE KCIJPSUV JOB!

```

- c. Press Enter to edit the KCIJPSUB job.  
Jobs that require authorization or are conditional are not submitted automatically. You must either submit them manually, or uncomment them to run automatically.
- d. Press F3, and you are automatically be presented with the KCIJVSUB job for submission.  
Submit the job. Check the status of each of the jobs submitted. The allocation and load jobs must run successfully, or others jobs will not run.

## Result

You have reconfigured the runtime environment's hub monitoring server as a remote monitoring server and connected it to a hub monitoring server running on a different LPAR.

## What to do next

If your KCIJPSYS job is pointing to your own version of the following libraries, you must refresh the production version.

```

GBL_DSN_SYS1_PARMLIB
GBL_DSN_SYS1_PROCLIB
GBL_DSN_SYS1_VTAMLIB
GBL_DSN_SYS1_VTAMLST

```

Restart the remote monitoring server.

## Scenario RTE05: Deleting a product or component from a runtime environment

Occasionally, you might need to remove a product or component from a particular runtime environment. For example, you might want to remove z/OS Management Console, now that it has been incorporated into OMEGAMON for z/OS.

### About this task

The procedure for deleting a product or component is similar to adding a new product as outlined in [“Scenario RTE01: Adding a new product to an existing PARMGEN runtime environment”](#) on page 209. The difference is that here you need to *exclude* an already configured component or product on the Include Products in this PARMGEN RTE panel (KCIP@PGI).

### Procedure

1. Refresh the PARMGEN work environment.  
This step updates interim libraries and recreates the configuration profiles with any new parameters.
  - a. Select the RTE to which you want to add the product by providing the fully-qualified RTE name (RTE\_PLIB\_HILEV and RTE\_NAME).

- b. From the Workflow - Primary Options Menu, select **Set up PARMGEN work environment for an RTE**.

The following message is displayed, notifying you that you need to resubmit the modified KCIJPCFG job after you make changes:

```
KCIP@MSG ----- PARMGEN MESSAGES -----  
Command ==>  
  
While configuring an existing RTE profile, you have asked to  
navigate to the KCIJPCFG option to review or make changes to the  
KCIJPCFG job, which was run with highest condition code RC= 00000  
on 2017/07/27. In most cases, if you change any KCIJPCFG  
parameters, you will have to rerun the KCIJPCFG job and certain  
subsequent PARMGEN configuration jobs.  
  
Press ENTER to continue with KCIJPCFG changes.  
  
Press F3 to abort.
```

- c. Press Enter to continue.  
The first setup panel (KCIP@PG1) is displayed.
  - d. Press Enter until the **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed.  
Any products already configured into the environment are indicated by a slash (/).
  - e. Deselect (remove the slash next to) any product that you do not want to include in the runtime environment.  
In the following example, z/OS Management Console is being deleted from the RTE, as it has now been incorporated into OMEGAMON for z/OS.

```

----- INCLUDE PRODUCTS IN THIS PARMGEN RTE - Row 1 to 19 of 26
Command ==> Scroll ==> PAGE

Select (/) product(s) to CONFIGURE those product(s) in RTE=PLB1SP13
Products configured in the model RTE have been preselected (/).
Select or deselect products to include or exclude from configuration.

When finished, change "N" to "Y" to confirm selections. Confirm ==> N (Y, N)

  Kpp Product Name/Version
-----
_ KAH System Automation Monitoring Agent V350
_ KC5 OMEGAMON for CICS V550
_ KHL OMEGAMON z/OS Management Console V410
_ KDO Tivoli Decision Support for z/OS Agent V181

/ KDS Tivoli Enterprise Monitoring Server V630
_ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON® AI for Db2 V610
_ KGW OMEGAMON for CICS TG V550
_ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
_ KMC OMEGAMON for Messaging - WebSphere MQ Configuration V730
_ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
_ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
_ KQI OMEGAMON for Messaging - Integration Bus V750
_ KRG Advanced Audit for DFSMSHsm Agent V260
_ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
_ KRJ Advanced Allocation Management Agent V330
_ KRK Automated Tape Allocation Manager for z/OS Agent V330
_ KRN Advanced Catalog Management Agent V260
_ KRV Advanced Backup and Recovery for z/OS Agent V240
_ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
_ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data

```

- f. Specify Y in the **Confirm ==>** field then press Enter to continue.  
The following panel is displayed:

```

KICIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES -----
Command ==>

If you changed any JVM RTE configuration values on the
"SET UP/REFRESH PARMGEN WORK ENVIRONMENT" KCIJPCFG navigation
panels, or changed the configured product mix or upgraded product
versions, then you must regenerate/resubmit the KCIJPCFG/KCIJPPRF jobs.
You must also refresh the PARMGEN profiles.

Specify a backup member name for the LPAR RTE to automate the
resubmission and refresh process. A default backup member is provided.
Blank-out the field if you do not want to refresh the profiles.

  DEMO Backup member name ==> _____ (Required for KCIJPPRF)

PARMGEN automatically backs up the RTE profile in
TDITN.IDTST.PARMGEN.WCONBACK, refreshes templates in IK* datasets,
rebuilds the profiles with the new values, merges in the profiles values
from the backed-up LPAR RTE user profile, and generates a delta report.

Press F1 for information about the automated process.

```

- g. Enter a name for the profile backup member.  
The modified KCIJPCFG job is displayed.
- h. Submit the job.  
The KCIJPCFG job submits the KCIJPPRF job, which updates the libraries and merges the backed up profile with z/OS Management Console deleted.
- i. Return to the **Workflow - Primary Options Menu** panel. Wait until both jobs have completed before taking the next step. No return code is displayed for this step on the Workflow main panel until both jobs have completed.
2. Recreate the runtime environment members and jobs.

- a. From the Primary Options Menu, select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PRS) is displayed.

```

KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                                     Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Select option 1 to submit the generated \$PARSE or \$PARSESV composite job.  
The \$PARSE or \$PARSESV member is presented, depending upon whether or not variables are enabled in the RTE.
  - c. Review the member for any jobs that need to be submitted manually, then submit the job.  
Return to the main Workflow panel.
3. Submit the batch jobs to complete the PARMGEN setup:
    - a. On the Workflow main panel, select **Submit batch jobs to complete PARMGEN setup**.  
The **SUBMIT Submit batch jobs to complete PARMGEN setup** panel (KCIP@SUB ) is displayed.
    - b. Select option 1 to submit the KCIJPSUB composite submit job, or select the other options to submit each job separately.  
If you select option 1, first review the KCIJPSUB job, and edit the job according to which of the conditional jobs need to be submitted automatically.
    - c. Check for good condition codes.
    - d. If you do not receive good condition codes, review the resulting output:
      - \$IVPRPT report, which is stored in the WCONFIG library
      - WSUPERC SYSTSPRT report, which is stored in the WSUPERC sequential library

**Note:** The WSUPERC step will encounter an informational condition code of 4 if OMEGAMON® AI for Db2 is not configured in this runtime environment as there are no xKD2\* libraries to compare.

- e. Correct any errors, and rerun any jobs that did not complete successfully.

## Result

The product is removed from the RTE.

## Scenario RTE06: Deleting a runtime environment

Occasionally, you may want to delete an entire runtime environment (RTE). For example, you may want to decommission a test RTE, or an ICAT RTE that you have converted to PARMGEN.

### About this task

There are two means of deleting an RTE: from the **List of Runtime Environments (RTEs)** panel, and from the **Access PARMGEN Utilities** panel.

From the **List of Runtime Environments (RTEs)** panel you delete any RTE except the currently selected RTE.

From the **Access PARMGEN Utilities** panel, you can delete only the currently selected RTE.

All the libraries are deleted, except for the persistent data store libraries. These libraries are deliberately *not* deleted to accommodate another Tivoli Enterprise Monitoring Server in another runtime environment that uses the same sysplex-level persistent data store libraries.

If you think you might want to recreate the RTE at another time, back up the WK\* work libraries. Backing up the work libraries means that you can easily recreate the RTE by running the \$PARSE job to recreate the runtime members and jobs and then submitting the appropriate batch jobs to complete the setup of the RTE.

## Procedure

- To delete an RTE from the **Runtime Environments (RTEs)** panel, complete the following steps.
  - a. Enter a question mark (?) in the RTE\_NAME field on the Workflow main panel.  
The **Runtime Environments (RTEs)** panel is displayed.
  - b. Type D next to the name of the RTE or RTEs that you want to delete, then press Enter.  
A message is displayed warning you that the RTE is about to be deleted without possibility of recovery.
  - c. Press Enter to delete the RTE.
- To delete an RTE from the **Access PARMGEN Utilities** panel, complete the following steps.
  - a. Enter UTIL on the command line of any Workflow panel.  
The **Access PARMGEN Utilities** panel is displayed.
  - b. Select **Delete RTE: %RTE\_NAME%** (option 25)  
A message is displayed warning you that the RTE is about to be deleted without possibility of recovery.
  - c. Press Enter to delete the RTE.

## Deployment scenarios

---

After you have configured one or more runtime environments, you can clone them and deploy them to other LPARs. Cloning runtime environments allows you to deploy environments with considerably less customization.

## Cloning an existing PARMGEN runtime environment

You can quickly create a new runtime environment (RTE) by cloning an existing one that is already configured to your requirements and then modifying the configuration as required for the new RTE, for example by converting a hub monitoring server to a remote.

## Defining the runtime environment

To identify the runtime environment (RTE) that you want to configure, you specify the name of the RTE, the library where the JCL for the configured runtime environments (RTEs) is stored, and the high-level qualifier that together with the RTE name uniquely identifies the data sets for this RTE.

## Procedure

1. Launch PARMGEN by using the following command:

```
EX 'gbl_target_hilev.TKANCUS'
```

where *gbl\_target\_hilev* is the high-level qualifier for the SMP/E target libraries where the products are installed.

The Welcome screen for the z/OS Installation and Configuration Tools is displayed:

```

KCIPQPGW
      Welcome to the z/OS Installation and Configuration Tools for
      z Systems Management Suites

Option ==>

1. Checklist: System preparation checklists
   Tip: Read/Print Checklists prior to installation and configuration.

2. Installation Workflow:
   SMP/E-install z/OS products with Install Job Generator (JOBGEN)
   Conditional: JOBGEN is not required when using SystemPac or ServerPac.

3. Configuration Workflow (Post-installation):
   Configure z/OS products with Parameter Generator Workflow (PARMGEN)

I. What's New in PARMGEN?

Maintenance Level: HKCI310 PTF UA94193 (APAR OA53974 4Q17 Interim Feature)
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```

2. Select 3 (Configuration Workflow).

If this is the first time you have invoked PARMGEN using this TSO user ID, or if the CSI target library is different from the last one accessed by the user ID, the **Specify GBL\_TARGET\_HILEV Parameter** panel is displayed:

```

KCIP@TLV ----- SPECIFY GBL_TARGET_HILEV PARAM
Command ==>

PARMGEN stores configuration values in the TSO user's ISPF profile.
If this is the first-time your TDITNT TSO user ID is invoking PARMGEN,
enter the GBL_TARGET_HILEV-related values appropriate for your deployment:

                                UNIT    /  STORCLAS /
                                VOLSER  /  MGMTCLAS
GBL_TARGET_HILEV: _____ / _____ /
                                HLQ of SMP/E target (TK*) datasets  _____

Note:
If this is not the first time your TDITNT ID is invoking PARMGEN, this
panel is also presented if the GBL_TARGET_HILEV stored value changed
from the last time you invoked PARMGEN. Verify GBL_TARGET_HILEV, UNIT,
VOLSER, STORCLAS, and/or MGMTCLAS values accordingly.

Reference: Last PARMGEN environment stored in TDITNT's ISPF profile:
          GBL_USER_JCL:
          RTE_PLIB_HILEV:
          RTE_NAME:
          Last GBL_TARGET_HILEV:

```

Enter the high-level qualifier for the SMP/E target data sets, and the UNIT/VOLSER and STORCLAS/MGMTCLAS if necessary. The following panel is displayed.

```

KCIPQPGA ----- PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU -----
Command ==>

                Quick Configuration Mode

Enter parameter values appropriate for the LPAR runtime environment (RTE).

GBL_USER_JCL:  -----
                (for example, TDITNT.ITM63055.SYSPLEX.PARMGEN.JCL)
                Specify the dataset name of the PARMGEN common/global
                library for the different LPAR runtime environments (RTEs).
                Use the same dataset for managing the different LPAR RTEs.
                Multiple users can specify the same dataset to manage RTEs.

RTE_PLIB_HILEV: -----
                Specify the High-Level Qualifier (&hlq) portion of the
                PARMGEN interim staging and work libraries for this LPAR RTE:
                - &hlq.&rte_name.IK* (IKANCMDU,IKANPARU,IKANSAMU)
                - &hlq.&rte_name.WK* (WKANCMDU,WKANPARU,WKANSAMU)
                - &hlq.&rte_name.WCONFIG

RTE_NAME:      ----- (Type ? for a list of configured RTEs)
                Specify the runtime environment (&rte_name) for this LPAR.

```

3. Provide the values for the new RTE that you want to create.

#### **GBL\_USER\_JCL**

Specifies the data set name of the PARMGEN global user JCL library. Enter the fully-qualified name that you want to use to store definitions for every RTE you might create on the LPAR. If the data set does not exist, you are prompted to correct the name or allocate the data set. For example: TDITN.IDTST.PARMGEN.JCL.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile.

#### **RTE\_PLIB\_HILEV**

Specifies the non-VSAM high-level qualifier to use for the following PARMGEN work libraries. For example: TDITN.IDTST.

- The WCONFIG control library where configuration profiles and other members are stored
- The interim staging (IK\*) libraries where PARMGEN product runtime members (template versions) are stored
- The work output (WK\*) libraries where PARMGEN file-tailored runtime members and jobs are created

Note that PARMGEN changes are stored in the work libraries. You control when the changes are copied into production libraries.

#### **RTE\_NAME**

Specifies a unique name for the RTE you are creating. The name is appended to the **RTE\_PLIB\_HILEV** value to make each set of PARMGEN and runtime libraries unique: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).

**Tip:** You might want to use the name of the LPAR and some distinguishing element in case more RTEs are created for LPAR. For example: SYSA.

4. Press Enter to proceed to the Workflow Primary Options Menu. The following message is displayed:

```

KCIP@MSG ----- PARAMGEN MESSAGES -----
Command ==>

You have asked to configure a new RTE profile.

Proceed to configure a new RTE profile.

Press ENTER to continue. Press F3 to abort.

```

5. Press Enter.

The **PARAMETER GENERATOR (PARMGEN) Workflow - Primary Option Menu** (KCIQPGB) is displayed.

```

KCIQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>
                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:     SYSA

Note: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, See Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

                Description                      Job/Label  Status    Date
-----
1.  Set up/Refresh PARMGEN work environment.    KCIJPCFG
2.  Customize PARMGEN configuration profiles.   SYSA
3.  Create this RTE's runtime members and jobs. $PARSE
4.  Submit batch jobs to complete PARMGEN setup. SUBMIT
5.  Perform post configuration steps.          POSTCFG
R   Create next RTE - Reset fields.           New RTE

```

## Setting up the work environment

The work environment for a cloned runtime environment (RTE) is based upon the values inherited from the existing RTE. You can then modify those values to customize the new RTE. For example, you can add new products or convert a hub monitoring server to a remote.

### About this task

To base a new RTE upon an existing RTE, you identify the RTE you want to clone, so that the configuration software can import values from that RTE.

### Procedure

1. Select **Set up PARMGEN work environment for an RTE** from the Workflow - Primary Options Menu. The first Set up PARMGEN work environment for an RTE panel is displayed.

```

KCIQPGB1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                Quick Configuration Mode
  More:    +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> //  MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
      (Type ? for last referenced JOBGEN library discovered, if any.)

```

- In the first field, specify the fully-qualified name of the RTE configuration profile of the existing RTE that you want to clone: %RTE\_PLIB\_HILEV%.%RTE\_NAME%.WCONFIG(%RTE\_NAME%).
- Review the following fields and make any changes required.

#### Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If it is not available and if you did not specify a JOBGEN output library, the job card is harvested from *gbl\_target\_hilev*.TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from that location. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions. On this panel, specify the parameter values appropriate for your environment. In most cases, the PARMGEN configuration parameters on this panel are required.

- Press Enter to proceed to the next panel.  
The Set up PARMGEN Work Environment for an RTE (2 of 3) panel (KCIP@PG2) is displayed.

```

KCIP@PG2  SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                Quick Configuration Mode
GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:
  UNIT   /  STORCLAS /
  VOLSER  /  MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                  HLQ of SMP/E target (TK*) datasets  _____ /
GBL_SYSDA_UNIT:   SYSDA___
                  Work datasets UNIT name
GBL_REGION:       OM_____
                  JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- Review the values on the panel and override them as necessary. Make sure that the **GBL\_TARGET\_HILEV** points to the libraries from which you executed TKANCUS for the new RTE.

#### GBL\_TARGET\_HILEV

Specifies the SMP/E high-level qualifier of the SMP/E target (TK\*) libraries.

#### GBL\_SYSDA\_UNIT

Specifies the non-VSAM disk UNIT for global work data sets.

#### GBL\_REGION

Specifies the JCL REGION value override if other than the REGION=OM value. This is the required storage value in Kilobytes or in Megabytes for PARMGEN batch jobs and product started tasks. The jobs contain the REGION= parameter on the EXEC statement. The syntax of the JCL REGION parameter is either &valueK or &valueM. Change this value as required by your installation. Specify K/M suffix (ex.: 4096K, OM). The default is OM.

- Press Enter to proceed to the next panel.  
The **Set Up PARMGEN Work Environment for an RTE (3 OF 3)** panel (KCIP@PG3) is displayed. The values on this panel are taken from the RTE that you are cloning, including any symbolics, if variables were enabled on that RTE.

KCIP@PG3 ---- SET UP PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----  
 Command ==> Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=DEMO.  
 Press F1=Help for more information.

More: -

```

RTE_DESCRIPTION: -----
RTE_SMS_PDSE_FLAG:      Y (Y, N) (Allocate Non-VSAM PDSE libs)
RTE_SMS_UNIT:          ----- (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:        ----- (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:      ----- (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:      ----- (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME:   ----- (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: ----- (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: ----- (VSAM disk STORCLAS)

RTE_TYPE:              FULL_____ (FULL, SHARING)
RTE_HILEV:             TDITN.IDTST_____
                      (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:        TDITN.IDTST_____
                      (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If RTE_TYPE is SHARING:
  RTE_X_HILEV_SHARING: -----
                      (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
  RTE_SHARE:           ----- ("SMP" value or *&rte_share)
                      (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
  RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updaters of R0 shared libs)

If symbolics (system variables or user-defined variables) will be used:
  RTE_SYSV_SYSVAR_FLAG: N (Y, N) (System variable flag)
  RTE_X_SYSV_OVERRIDE_SYMBOLS: N (Y, N) (Override local system symbols)

Security settings:
  RTE_SECURITY_USER_LOGON: NONE_____ (RACF, ACF2, TSS, NAM, None)
  RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
  RTE_SECURITY_CLASS: -----
  RTE_X_SECURITY_EXIT_LIB: TDITN.IDTST.DEMO.RKANSAMU_____
  GBL_DSN_ACF2_MACLIB: -----
  GBL_DSN_ACF2_MACLIB1: -----

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
  RTE_TEMS_CONFIGURED_FLAG: _____ (Y, N) (Configure TEMS in this RTE)
  RTE_TEMS_NAME_NODEID: DEMO:CMS_____ (e.g.,IDTEST:cms)
  KDS_TEMS_TYPE:          HUB_____ (Hub, Remote)
  KDS_TEMS_HA_TYPE:       --_____ (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
  RTE_TCP_PORT_NUM:      1918_____ (1-65535 port number)
  RTE_VTAM_APPLID_PREFIX: CTD_____ (1-4 char.VTAM APPLID prefix)
  RTE_STC_PREFIX:        IBM_____ (1-4 char.started task prefix)
  
```

Depending upon your screen resolution, you might have to scroll down (PF8) to see all the parameters. (Note the **More: +** which indicates that there is additional content on the panel.)

7. Review the parameter values and provide any LPAR-specific values for the new RTE. For example, you might want to change the description of the RTE, or change the monitoring server type from a hub to a remote.  
 If support for variables is enabled, you do not need to made any changes to this panel. If variables are not enabled, you must make the following changes:

- Change the value of **RTE\_TEMS\_NAME\_NODEID** to the host name of the new RTE (*old\_rte*:CMS changed to *new\_rte*:CMS).
- If this is a shared DASD environment, you must modify the following parameters to keep them unique:
  - **RTE\_VTAM\_APPLID\_PREFIX**
  - **RTE\_STC\_PREFIX**

If you make changes to any of the following RTE parameters on this panel, you must make the same changes to the corresponding product-specific parameters in the RTE profile (for example, **\*\_STC\_PREFIX**), as the values of those parameters will be inherited from the cloned RTE.

- **RTE\_SMS\_UNIT**
- **RTE\_SMS\_VOLUME**

- RTE\_SMS\_MGMTCLAS
- RTE\_SMS\_STORCLAS
- RTE\_SMS\_VSAM\_VOLUME
- RTE\_SMS\_VSAM\_MGMTCLAS
- RTE\_SMS\_VSAM\_STORCLAS
- RTE\_HILEV
- RTE\_VSAM\_HILEV
- RTE\_SECURITY\_USER\_LOGON
- RTE\_TEMS\_NAME\_NODEID
- RTE\_TCP\_PORT\_NUM
- RTE\_VTAM\_APPLID\_PREFIX
- RTE\_STC\_PREFIX

8. Press Enter to proceed to the next panel.

The **Include Products in this PARMGEN RTE** panel (KCIP@PGI) is displayed. This panel lists all the products installed in the product target library. The products configured in the RTE you are cloning are indicated by a slash (/).

```
KCIP@PGI ----- INCLUDE PRODUCTS IN THIS PARMGEN RTE - Row 1 to 19 of 26
Command ==>                                     Scroll ==> PAGE

Select (/) product(s) to CONFIGURE those product(s) in RTE=$DOCRTE
All installed products have been preselected (/).
Select or deselect products to include or exclude from configuration.

When finished, change "N" to "Y" to confirm selections. Confirm ==> N (Y, N)

  Kpp Product Name/Version
  -----
  / KAH System Automation Monitoring Agent V350
  / KC5 OMEGAMON for CICS V550
  / KD0 Tivoli Decision Support for z/OS Agent V181
  / KDS Tivoli Enterprise Monitoring Server V630
  / KD4 ITCAM for SOA Agent V711
  / KD5 OMEGAMON AI for DB2 V610
  / KGW OMEGAMON for CICS TG V550
  / KI5 OMEGAMON for IMS V550
  / KJJ OMEGAMON for JVM V540
  / KMC OMEGAMON for Messaging - WebSphere MQ Configuration V730
  / KMQ OMEGAMON for Messaging - MQ V750
  / KM5 OMEGAMON for z/OS V550
  / KNA NetView for z/OS Agent V621
  / KN3 OMEGAMON for Networks V550
  / KOB OMEGAMON Enhanced 3270 User Interface V750
  / KQI OMEGAMON for Messaging - Integration Bus V750
  / KRG Advanced Audit for DFSMSHsm Agent V260
  / KRH Advanced Reporting and Management for DFSMSHsm Agent V260
  / KRJ Advanced Allocation Management Agent V330
  / KRK Automated Tape Allocation Manager for z/OS Agent V330
  / KRN Advanced Catalog Management Agent V260
  / KRV Advanced Backup and Recovery for z/OS Agent V240
  / KRW Tape Optimizer for z/OS Agent V220
  / KS3 OMEGAMON for Storage V540
  / KYN ITCAM for Application Diagnostics, TEMA V710.03
  End of data
```

9. Deselect (by removing the slash) any products that you do not want to include in the new RTE. (For example, you might not want to configure another instance of the OMEGAMON enhanced 3270 user interface in this RTE.) Select any products that you want to add to the new RTE.
10. Change Confirm ==> N to Confirm ==> Y to confirm your choices, then press Enter. The modified JCL for the KCIJPCFG job is displayed.
11. Review the JCL to understand what the job is doing, then submit the job and return to the Workflow - Primary Options Menu.

The KCIJPCFG job submits the KCIJPPRF job, which updates the work libraries and merges the values from the existing RTE. You will see a status of SUBMITTED until both jobs have completed. Do not proceed to the next step until you see a successful return code.

## Result

The configuration software allocates the work libraries, creates the configuration profiles with values taken from the model RTE or specified on the KCIP@PG3 panel, and populates the PARMGEN templates in IKAN\* libraries with runtime members for the products that are selected for configuration.

## What to do next

Now you can review or customize the configuration profiles for the RTE.

## Customizing the configuration profiles

The amount of editing required to customize the configuration profiles for the new runtime environment (RTE) depends upon how much the new RTE differs from the RTE you are cloning it from. Presumably, you are cloning the RTE because you want the new RTE to have the same values as the RTE you are cloning it from, so the configuration should be minimal, especially in a variable-enabled RTE. You can clone the customized WCONFIG members, including the global configuration profile, from the model RTE and copy its variables profile. You can also clone any customized data such as situation definitions or enhanced 3270 user interface profiles or workspace definitions. However, there are a few LPAR-specific values you must change in the RTE configuration profile of the new RTE.

## About this task

In the RTE configuration profile, make the following changes:

- Replace any occurrences of the RTE name with the name of the new RTE.
- If there is a monitoring server configured in this RTE, modify the IP host name to the IP host where the agents and monitoring server will run.
- If you changed the **RTE\_STC\_PREFIX** and **RTE\_VTAM\_APPLID\_PREFIX** on the KCIPQPG3 panel, make the same changes to the corresponding agent parameters:
- If you changed a hub monitoring server to a remote, configure the remote monitoring server parameters that define where the hub is.
- Customize any the parameter values for any agents or framework component that are specific to this RTE.

To use the override embeds and \$GBL\$USR member already customized for the RTE you are cloning, use the KCIJPCCF job to clone the customized members. Then, review the cloned \$GBL\$USR member and make any required RTE-specific changes. At a minimum, you must customize the **GBL\_HFS\_JAVA\_DIR1** parameter to a site-appropriate value. You must also edit the value for load library parameter **GBL\_DSN\_CSF\_SCSFMODE0** and any of the product-specific parameters listed in [Customizing the global configuration profile](#), as appropriate.

To copy other customized data from the model RTE, use the KCIJPCLN job. The job must be run after the \$PARSE job is run. See [“How to: Clone customized data from an existing RTE” on page 484](#) for more information on running this job.

If variables are supported in the RTEs, replace the contents of the variables profile of the new RTE with the contents of the variables file for the RTE you are cloning (copy %GBL\_USER\_JCL%(%OLD\_RTE%) to %GBL\_USER\_JCL%(%NEW\_RTE%)).

## Procedure

1. Select **Customize PARMGEN configuration profiles** from the Workflow main options menu. The Customize PARMGEN Configuration Profile Members panel is displayed.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

    *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
    *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
    *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
        global library (TDITN.IDTST.PARMGEN.JCL).
        Add/Modify system/user-defined symbols and their
        resolution values, for override variables used as parameter
        values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
    4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

    5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
    6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
    7. $SYSIN $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.

```

2. Type DLAJOB in the command line and press Enter to review the composite KCIJPDLA job that auto-discovers the values to some parameters in the configuration profiles. Submit the job after you review the job settings.
3. Select option 1 to edit the RTE configuration profile as follows.
  - Do a **CHANGE ALL** to replace the name of the cloned RTE with the name of the new RTE.
  - If there is a monitoring server configured in this RTE, do an **EXCLUDE FIND** on TCP\_HOST and change the host name of the cloned RTE to the IP host name for this RTE. This change reconfigures the agents and components to report to the local monitoring server.
  - If this RTE shares DASD with the RTE it was cloned from, change all occurrences of **Kpp\_VTAM\_APPLID\_PREFIX** and **Kpp\_STC\_PREFIX** to ensure that these values are unique.
  - If you changed a hub monitoring server to a remote when you cloned the RTE, perform an **EXCLUDE FIND** on all references to KDS\_HUB and change the value of these parameters to the hub values. For example, change **KDS\_HUB\_TEMS\_NAME\_NODEID** to the name of the hub monitoring server and **KDS\_HUB\_TCP\_HOST** to the hub's IP host name.
  - If you intend to clone customized data using the KCIJPCLN job, set the following two parameters to the appropriate values:
    - **RTE\_CLONE\_FROM\_HLQRTE**
    - **RTE\_CLONE\_FROM\_VSAM\_HLQRTE**
  - Customize any agent parameter values specific to this RTE. At a minimum, you must configure the following parameters.
    - If OMEGAMON® AI for Db2 is configured:
      - **KD2\_DBnn\_DB2\_SSID**
      - **KD2\_DBnn\_DB2\_VER**
    - If OMEGAMON for IMS on z/OS is configured:
      - For each subsystem, uncomment the following block of parameters.

```

KI2_I1          BEGIN          * Table begin *
KI2_I101_ROW    01
KI2_I101_CLASSIC_XMIT 00
KI2_I101_CLASSIC_IMSID IMSA * Not eligible for symbolics *
KI2_I101_CLASSIC_STC  IBMOIO

```

KI2_I101_CLASSIC_IMS_RESLIB	DFS.V12R0M0.SDFSRESL	
KI2_I101_CLASSIC_MPREFIX	M0	
KI2_I101_CLASSIC_VTAM_NODE	CTDOI0N	
KI2_I101_CLASSIC_VTAM_APPL_LOGON	CTDOI0	
KI2_I101_CLASSIC_LROWS	255	
KI2_I101_CLASSIC_USER_PROFILE	/C	
KI2_I101_CLASSIC_CTRL_UNIT_ADDR	XXXX	
KI2_I1	END	* Table end *

- At a minimum, customize the following two parameters:
    - **KI2\_I101\_CLASSIC\_IMSID**
    - **KI2\_I101\_CLASSIC\_IMS\_RESLIB**
  - If OMEGAMON for Networks is configured in the RTE, for each monitored TCP/IP stack customize the following parameters:
    - **KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN**
    - **KN3\_TCPXnn\_TCPIP\_PROFILES\_MBR**
4. Press F3 to save the changes and return to the Customize PARMGEN Configuration Profile Members panel.
  5. Clone the customized WCONFIG files from the RTE you are cloning.
    - a. Enter **UTIL** on the command line.  
The **Utilities** panel is displayed.
    - a. Select option 24 (Clone customized WCONFIG members).  
The KCIJPCCF JCL is displayed.
    - b. Review the JCL to ensure that the //OLDWCNFG DDNAME is set to the WCONFIG of the RTE you are cloning.
    - c. Submit the job and return to the Customize PARMGEN Configuration Profile Members panel.
  6. Edit the cloned \$GBL\$USR profile as follows:
    - a. From the **Customize PARMGEN Configuration Profile Members** menu, select option 2.
    - b. Customize the GBL\_HFS\_JAVA\_DIR1 parameter with a site-appropriate value. [Customizing the global configuration profile](#),
    - c. If password encryption (KAES256) is enabled, set the value for the ICSF system library: **GBL\_DSN\_CSF\_SCSFMODE0**.
    - d. Edit the following product-specific parameters.
      - If OMEGAMON® AI for Db2 is configured in the RTE:
        - Uncomment and customize the following parameters as applicable to your Db2 environment:
          - **GBL\_DSN\_DB2\_SDSNLOAD**
          - **GBL\_DSN\_DB2\_LOADLIB\_V11**
          - **GBL\_DSN\_DB2\_LOADLIB\_V12**
          - **GBL\_DSN\_DB2\_RUNLIB\_V11**
          - **GBL\_DSN\_DB2\_RUNLIB\_V12**
          - **GBL\_DSN\_DB2\_DSNEXTIT**
      - If OMEGAMON for CICS TG is configured, uncomment and customize the following parameter:
        - **GBL\_DSN\_CICS\_CTG\_DLL**
      - If OMEGAMON for IMS on z/OS is configured, uncomment and customize the following parameter:

- **GBL\_DSN\_IMS\_RESLIB**
  - If OMEGAMON for Messaging on z/OS is configured, uncomment and customize the following parameters:
    - **GBL\_DSN\_WMQ\_SCSQANLE**
    - **GBL\_DSN\_WMQ\_SCSQAUTH**
    - **GBL\_DSN\_WMQ\_SCSQLOAD**
7. Press F3 to save the changes and return to the **Customize PARMGEN Configuration Profile Members** panel.
  8. If support for variables is enabled, replace the contents of the variables profile of the new RTE with the contents of the variables profile for the RTE you are cloning.
    - a. Select option 3. The variables profile for the new RTE is opened in edit mode.
    - b. Delete the contents of the profile using the standard TSO command.
    - c. Replace the contents of the profile with the contents of the variables profile of the cloned RTE.
  9. Press F3 to save the changes, then press F3 to return to the main Workflow panel.

## Creating the runtime environment members and jobs

To create the members and jobs that complete the creation of the runtime environment (RTE), you run the \$PARSE job (or \$PARSESV if variable support is enabled). This job generates a set of jobs that extract the profile parameter values specified during set up and in the configuration profiles. The jobs then generate the runtime environment (RTE) members and jobs required to complete the creation of the RTE.

### Procedure

1. From the Workflow - Primary Option Menu, select **Create the RTE members and jobs**. The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** panel (KCIP@PR1) is displayed.

```
KCIP@PR1 ----- CREATE THE RTE MEMBERS AND JOBS -----
Option ==>

Select option 1 to SUBMIT the full $PARSE job in WCONFIG for RTE=SYSA.
$PARSE composite job creates product runtime members and jobs in all the
PARMGEN WK* work libraries.
Tips:
o: Press F5 to access the library-specific $PARSE* jobs (ideal in an RTE
   reconfiguration scenario). First-time RTE deployment must run $PARSE.
o: Select R to submit the KCIJPUP1 job to refresh the IK* product and
   WCONFIG *$IBM profiles before recreating the runtime members.

Enter ns (1s-2s) for detailed job/task status.

-----
Description                               Job Name   Status   Date
-----
R Refresh IK* templates/WCONFIG *$IBM profiles.  KCIJPUP1
1. Create runtime members/jobs in all WK* libs.  $PARSE
Press F1=Help for more information.  Type UTIL to access utility menu.
```

2. Select option 1 to submit the composite job.

### Result

The runtime members and jobs are created.

### What to do next

Submit the jobs to complete the set up of the RTE.

## Completing the PARMGEN setup

To complete the setup of the runtime environment using the Parameter Generator configuration software, you submit the batch jobs created by the \$PARSE job in the previous step. These jobs allocate the runtime libraries,

copy members from the target libraries to the runtime libraries, run required security jobs, and the like, using the values you supplied during the configuration process. You will have to complete additional tasks outside of the configuration software.

## Procedure

1. From the Workflow - Primary Option Menu, select **Submit batch jobs to complete PARMGEN setup**.

```
KCIPQPGB  PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU -----
Option ==>

                Quick Configuration Mode

GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITN.IDTST
RTE_NAME:      SYSA

Notes: Perform steps 1 through 5 in sequence, repeating steps as necessary.
      If reconfiguring this RTE, see Maintenance Scenarios F1=Help topic.
      Enter n (1-5) to perform tasks.
      Enter ns (1s-5s) for detailed job/task status.

-----
Description                               Job/Label  Status      Date
-----
1. Set up/Refresh PARMGEN work environment.  KCIJPCFG
2. Customize PARMGEN configuration profiles.  SYSA
3. Create this RTE's runtime members and jobs. $PARSE    Enter 3 for details.
4. Submit batch jobs to complete PARMGEN setup. SUBMIT    Enter 4 for details.
5. Perform post configuration steps.         POSTCFG
R Create next RTE - Reset fields.           New RTE

Press F1=Help for more information.  Type U or UTIL to access utility menu.
```

The **Submit Batch Jobs To Complete PARMGEN Setup** panel (KCIP@SUB) is displayed.

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.

-----
Description                               REQ  Job Name  Status      Date
-----
1. Composite SUBMIT job (See JCL comments)  KCIJPSUB
** or **
2. Allocate runtime RO and RW datasets      (Yes) KCIJPALO
3. Copy SMP/E mbrs from TK*->RK* RO libs   (Yes) KCIJPLOD
4. Run product security steps              (Yes) KCIJPSEC
5. Update variable-named runtime mbrs      (No ) KCIJPUPV
6. (Re)Create USS runtime mbrs in RKANDATV (Yes) KCIJPUSP
7. Create USS dirs./ (Re)Copy USS files    (Yes) KCIJPUSS
8. Copy runtime mbrs to SYS1-type libs (Caution) KCIJPSYS
9. Run post-SMP/E RKANMODU ASM/LINK steps  (Yes) KCIJPLNK
10. Verify the configuration jobs          (Tip) KCIJPIVP
11. Back-up RK* product execution user libs (Tip) KCIJPCPR
12. Copy runtime mbrs from WK*->RK* RW libs (Yes) Enter 12 for details.

More: +

Press F1=Help for more information.  Type UTIL to access utility menu.
```

The jobs that you need to submit to set up this RTE are indicated by a Yes in the REQ column.

2. Choose one of the following approaches.
  - To submit the full set of actions within a single job, choose option 1.
  - To submit each action individually in turn, choose options 2 through 12, as required.

Note that some options, such as z/OS® UNIX® System Services system setup, may require specific user authorization to make changes to the file system. Because the user who has been configuring the RTE may not have the correct authorization in place, specific jobs can be excluded from the composite job and submitted separately by a user who does have the correct authorization. If you decide to submit all the jobs automatically, submit the composite KCIJPSUB job. Otherwise, submit the jobs individually.

## KCIJPALO

This required job allocates the RK\* runtime libraries for all the products and components in the runtime environment.

## KCIJPLOD

This required job copies members of the target libraries that were installed by SMP/E to the read-only RK\* libraries.

The job also deletes any runtime members from the different libraries based on the product versions' FMID requirements if, for example, the latest version of the product removes or renames any SMP/E elements. If any of the libraries listed in the DELRUN DDNAME is part of the system link libraries, or the library may be in use, the KCIJcLOD RTE load job may not be able to delete these elements if the libraries are enqueued. If either of these situations is true, run the BUILDDEX/DELRUN step when those libraries are available.

## KCIJPSEC

This job is required if the product-specific IBM®-supplied security exit or input must be customized. The job creates security-related members (load modules, encryption key, and other elements) based on the product security requirements.

Review the *KppSUPDI* "Modify Classic command table" security steps. The *KppJPSCO* input members to the composite KCIJPSEC security job point SYSIN DD to your security exit library (RTE\_X\_SECURITY\_EXIT LIB). Also see the RTE\_X\_SECURITY\_EXIT\_LIB parameter in the RTE profile.

## KCIJPUSP

This job is required if you are configuring at least one product that requires z/OS UNIX. The job creates the z/OS UNIX-related members in the RKANDATV runtime library for use in the composite KCIJPUSS job.

**Tip:** This job is required if you enabled the self-describing agent feature.

## KCIJPUSS

This job is required if you are configuring at least one product that requires z/OS UNIX. The job creates the Hierarchical File System (HFS) or the zSeries File System (zFS) directories and subdirectories, and copies files to HFS or zFS.

**Tip:** This job is required if you enabled the self-describing agent feature.

## KCIJPSYS

This job copies the product started tasks and VTAM major node members for the products and components into system libraries, and assembles and links product modules into system libraries. The job requires write access to system libraries.

## KCIJPLNK

The job assembles and links elements into the SYSLMOD RKANMOD\* load library.

## KCIJPUPV

If system variables are enabled (RTE\_SYSV\_SYSVAR\_FLAG = Y), this job must be submitted in the target LPAR where the symbolics are resolved. This job populates variable-named members contained in the application-specific *KppJPUPB* composite IEBUPDTE members in the WK\* work output libraries. See the KCIP@SUB help panels for more information.

## KCIJPCPR

This job clones the existing production runtime user libraries (RK\*).

## KCIJPW2R/KCIJPW1R

These jobs (Option 12) copies the WK\* work output libraries to the respective production RK\* runtime libraries. If you do not run this job, you must copy the work output libraries to the runtime libraries by some other method, following your normal change control process. If you run either of these jobs, run KCIJPCPR to back up the RK\* production libraries. KCIJPW2R is run by default when the composite submit job KCIJPSUB is run. KCIJPW2R replaces all RK\* members with members from WK\*. It will leave non-PARMGEN managed members in RK\* libraries. KCIJPW1R deletes all RK\* members except for the ones that are added in the IBM provided WKANSAMU(KCI\$IW2R) and user defined WCONFIG(KCI\$XW2R) exclude lists, and then copies WK\* members to RK\* libraries. Users must add members they want saved to their RTE WCONFIG(KCI\$XW2R) member.

3. If the jobs complete with any errors, review the \$IVPRPT verification report, correct the errors noted, and resubmit the jobs.  
For more information on the verification report, see [Completing the setup of the runtime environment](#).

## Result

The new RTE is created.

## What to do next

Complete any configuration required outside of the configuration software. To see the required steps, return to the Workflow - Primary Option Menu and select **Perform post configuration steps**. This option displays a set of readme files that describe the additional configuration steps that must be taken for the components and products that are configured in this RTE. For additional information, see [Completing the configuration outside the configuration software](#) and the *Planning and Configuration Guide* for each of the configured products.

## Cloning an existing runtime environment

You can clone an existing PARMGEN runtime environment to create a new environment that runs on a different LPAR but uses the same values and has the same products configured. In this scenario, nothing changes, except LPAR-specific values.

### Before you begin

This scenario uses the PARMGEN Workflow user interface to set up the work environment, customize profiles, and create and submit the jobs that create the runtime environment RTE). For instructions on launching the interface, see [“Accessing the Workflow menu” on page 428](#).

### About this task

In this scenario, you use the configuration values from one PARMGEN runtime environment to create another on a different LPAR. There are 8 main steps involved in the scenario:

1. Set up the PARMGEN work environment for the new runtime environment.
2. Clone customized WCONFIG library members from the model runtime environment to the WCONFIG library for the new runtime environment.
3. Update the interim libraries and create the PARMGEN configuration profiles.
4. Merge the configuration profile parameter values from the model runtime environment into the new one.
5. Customize the configuration profiles for the new environment.
6. Validate the profile parameter values.
7. Create the runtime members and jobs.
8. Submit the jobs to complete create the runtime environment.

If the LPAR on which the new runtime environment is being configured does not share DASD with the LPAR on which the runtime environment will run, the PARMGEN libraries must be copied to the target LPAR. (See [PARMGEN transport scenarios](#) for more information.) Where each of these steps is performed depends on the transport method being used to deploy the new environment.

**Note:** In this scenario, system variables are not enabled. If you intend to clone an environment which uses system variables, see [“Cloning an existing environment with system variables enabled” on page 876](#).

## Procedure

1. Set up the PARMGEN work environment for the new RTE.
  - a. On the PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU (KCIPQPGA) panel, specify the parameters to identify the new RTE and press Enter.

Note that if you did not invoke the R (RESET) option, the values for GBL\_USER\_JCL, RTE\_PLIB\_HILEV, and RTE\_NAME are carried forward from the last environment you created. If the values for the GBL\_USER\_JCL library and the high-level qualifier for the work libraries are correct, change the RTE\_NAME to the name you want to use for the new environment.

### GBL\_USER\_JCL

Specify the dataset name of the PARMGEN global user JCL library for the new runtime environment. If the dataset does not exist, you are prompted to correct the name or allocate the data set.

### RTE\_PLIB\_HILEV

Specify the non-VSAM high-level qualifier you want to use for the PARMGEN work libraries for the new runtime environment.

### RTE\_NAME

Unique name for the runtime environment you are configuring. The name you specify is appended to the RTE\_PLIB\_HILEV values to make each set of PARMGEN and runtime libraries unique.

The PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU (KCIPQPGB) panel is displayed.

- b. Select option 1 from the menu.  
The Set up PARMGEN Work Environment for an RTE (1 of 1) (KCIPQPG1) is displayed.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode                                More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /*** 0 0 RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
==> /*** \_~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)
```

- c. Complete the fields as appropriate, then press Enter to continue.

### RTE model profile

The information you provide in the RTE model profile field determines what jobs the configuration software will run after the work environment is set up. To create (clone) an RTE based on an already configured PARMGEN RTE, provide the WCONFIG profile library and member name for that RTE (for example: *hilev.rte.WCONFIG(rte\_name)*, where *rte\_name* is the member you want to clone from).

If a value is supplied, PARMGEN queries the member to determine what products or components are already configured within the RTE to tailor the configuration parameters set. If the specified data set or member does not exist, you are prompted to correct the name.

## Install Job Generator (JOBGEN) output library

Specify the Install Job Generator (JOBGEN) output library if you want PARMGEN to reuse parameter values from the JOBGEN output library repository. These are values such as the jobcard, CALLLIBS override data, and other CSI values such as:  
If the specified dataset does not exist, you are prompted to correct the name.

**Note:** For more information about the JOBGEN output library, refer to the Installation Job Generator Utility section in the product's Program Directory.

## Jobcard data

If a customized job card is already available, it is retrieved from the ISPF user profile pool. If a job card is not available and if you did not specify a JOBGEN output library, the job card is harvested from the &gbl\_target\_hilev.TKANSAM SMP/E target library where the initial PARMGEN sample job card default is supplied. If you specified a JOBGEN output library, the job card information is harvested from there. You can modify the retrieved data as needed. The customized job card is saved in the ISPF user profile pool and persists across ISPF sessions.

```
KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>
                                Quick Configuration Mode
                                More:      +

Specify the RTE model profile to use:

=> &hlq.&rte.WCONFIG(&clone_from)-----

- To create an RTE from scratch, leave this field blank.
- To create an RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create an RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create an RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(&rte_name))

- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITN.IDTST.DEMO.WCONFIG(&rte_name))

Customize jobcard data:
=> //KCIJPPGN JOB (ACCT),'%SYSTEMBER% - NAME',CLASS=A,-----
=> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
=> /***  0 0  RTE_NAME=%RTE_NAME% SYSTEMBER=%SYSTEMBER%-----
=> /***  \~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
=>
   (Type ? for last referenced JOBGEN library discovered, if any.)
```

- d. Press Enter to proceed to the next panel.  
The Set Up PARMGEN Work Environment for an RTE (2 OF 3) panel (KCIP@PG2) is displayed.

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                                Quick Configuration Mode
GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:

                                UNIT / STORCLAS /
                                VOLSER / MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets _____ / _____ /

GBL_SYSDA_UNIT:  SYSDA___
                   Work datasets UNIT name

GBL_REGION:      OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- e. Review the values for GBL\_TARGET\_HILEV and GBL\_SYSDA\_UNIT and correct them if necessary. These values for the parameters on this panel are read from the RTE you are cloning from. You might want, for example, the new RTE to point to a different set of target libraries which has newer versions of the products installed.
- f. Press Enter to proceed to the next panel. The third setup panel (KCIP@PG3) is displayed. Depending on your screen resolution, you may have to scroll down (PF8) to see all the parameters. (Note the More: + indicator.)

KCIP@PG3 ---- SET UP PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----  
 Command ==> Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=&rte\_name.  
 Press F1=Help for more information.

More: +

RTE\_DESCRIPTION: &rte\_name-----  
 RTE\_SMS\_PDSE\_FLAG: N (Y, N) (Allocate Non-VSAM PDSE libs)  
 RTE\_SMS\_UNIT: ----- (Non-VSAM disk UNIT type)  
 RTE\_SMS\_VOLUME: ----- (Non-VSAM disk VOLSER)  
 RTE\_SMS\_MGMTCLAS: MCSTD\_\_\_\_\_ (Non-VSAM disk MGMTCLAS)  
 RTE\_SMS\_STORCLAS: SCTSTEST\_\_ (Non-VSAM disk STORCLAS)  
 RTE\_SMS\_VSAM\_VOLUME: MCSTD\_\_\_\_\_ (VSAM disk VOLSER)  
 RTE\_SMS\_VSAM\_MGMTCLAS: ----- (VSAM disk MGMTCLAS)  
 RTE\_SMS\_VSAM\_STORCLAS: SCTSTEST\_\_ (VSAM disk STORCLAS)

RTE\_TYPE: FULL\_\_\_\_\_ (FULL, SHARING)  
 RTE\_HILEV: TDITN.IDTST\_\_\_\_\_ (&hlq portion of Non-VSAM RK\* HLQ=&hlq.&rte\_name)  
 RTE\_VSAM\_HILEV: TDITN.IDTST\_\_\_\_\_ (&hlq portion of VSAM RK\* HLQ=&hlq.&rte\_name)

If RTE\_TYPE is SHARING:

RTE\_X\_HILEV\_SHARING: \_\_\_\_\_ (&hlq portion of shared RTE's HLQ=&hlq.&rte\_share)  
 RTE\_SHARE: \_\_\_\_\_ ("SMP" value or \*&rte\_share)  
 (\*&rte\_share portion of shared RTE's HLQ=&hlq.&rte\_share)  
 RTE\_LOAD\_SHARED\_LIBS: Y (Y, N) (Is RTE updater of R0 shared libs)

If symbolics (system variables or user-defined variables) will be used:

RTE\_SYSV\_SYSVAR\_FLAG: N (Y, N) (System variable flag)

Security settings:

RTE\_SECURITY\_USER\_LOGON: NONE\_\_\_\_\_ (RACF, ACF2, TSS, NAM, None)  
 RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG: Y (Y, N) (Fold password to upper case)  
 RTE\_SECURITY\_CLASS: -----  
 RTE\_X\_SECURITY\_EXIT\_LIB: TSTEST.&userid.&clone\_from.RKANSAMU\_\_\_\_\_  
 GBL\_DSN\_ACF2\_MACLIB: -----  
 GBL\_DSN\_ACF2\_MACLIB1: -----

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:

RTE\_TEMS\_CONFIGURED\_FLAG: Y (Y, N) (Configure TEMS in this RTE)  
 RTE\_TEMS\_NAME\_NODEID: &clone\_from:CMS \_\_\_\_\_ (e.g.,CLONETST:cms)  
 KDS\_TEMS\_TYPE: HUB\_\_\_\_ (Hub, Remote)  
 KDS\_TEMS\_HA\_TYPE: -- (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:

RTE\_TCP\_PORT\_NUM: 1918\_\_\_\_\_ (1-65535 port number)  
 RTE\_VTAM\_APPLID\_PREFIX: TS1\_\_\_\_\_ (1-4 char.VTAM APPLID prefix)  
 RTE\_STC\_PREFIX: TSS1\_\_\_\_\_ (1-4 char.started task prefix)

Note: Type BACK to go back one panel.

Any changes made on this panel are preserved when the existing RTE is cloned, but not all changes are inherited by the corresponding component and product-specific parameters in the RTE profile of the new RTE. If you change any of the following parameters, you must edit the corresponding product and component parameters in the RTE profile to the same values as you specify here.

- Started task prefix
- VTAM applid prefix
- Port number
- RTE high-level qualifier
- VSAM high-level qualifier

At a minimum, make the following changes to convert the new RTE to a sharing RTE with a remote monitoring server that connects to the hub in the cloned-from RTE:

- i. Change the type of runtime environment to Sharing-with-SMPE by setting RTE\_TYPE to SHARING and RTE\_SHARE to SMP.
- ii. Change RTE\_TEMS\_NAME\_NODEID to &rte\_name:CMS.
- iii. (Optionally) Change RTE\_X\_SECURITY\_EXIT\_LIB to TSTEST.&userid.&rte\_name.RKANSAMU. If you are sharing the same security settings and permission as the model runtime environment, you can use the same library.

- iv. Convert the hub to a remote by setting KDS\_TEMS\_TYPE to REMOTE.
- g. Press Enter to proceed to the next panel.  
The Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==> Scroll ==> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections. Confirm ==> N (Y, N)

  Kpp Component or Product Name and Version
-----
/ KAH System Automation Monitoring Agent V350
/ KC5 OMEGAMON for CICS V550
/ KDO Tivoli Decision Support for z/OS Agent V181
/ KDS Tivoli Enterprise Monitoring Server V630
/ KD4 ITCAM for SOA Agent V711
/ KD5 OMEGAMON for DB2 PE V550
/ KGW OMEGAMON for CICS TG V550
/ KI5 OMEGAMON for IMS V550
/ KJJ OMEGAMON for JVM V540
/ KMQ OMEGAMON for Messaging - MQ V750
/ KM5 OMEGAMON for z/OS V550
/ KNA NetView for z/OS Agent V621
/ KN3 OMEGAMON for Networks V550
/ KOB OMEGAMON Enhanced 3270 User Interface V750
/ KQI OMEGAMON for Messaging - Integration Bus V750
/ KRG Advanced Audit for DFSMSHsm Agent V260
/ KRH Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ Advanced Allocation Management Agent V330
/ KRK Automated Tape Allocation Manager for z/OS Agent V330
/ KRN Advanced Catalog Management Agent V260
/ KRV Advanced Backup and Recovery for z/OS Agent V240
/ KRW Tape Optimizer for z/OS Agent V220
/ KS3 OMEGAMON for Storage V540
/ KYN ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

This panel lists the products installed in the runtime environment and therefore available for configuration.

This panel lists all the installed products that are available for configuration by product code (*Kpp*) and product name and version. The products marked with a slash (/) are the ones already configured in the RTE being cloned, but the version represents the latest version available. If you include these products, they will be upgraded to the version in the target libraries. In this example, a monitoring server, OMEGAMON for z/OS, OMEGAMON for CICS, and the OMEGAMON enhanced 3270 user interface are already configured.

- h. If you want to install additional products, select them by typing a slash next to the product code. Deselect any products you do not want to include in the new RTE. Then, change **Confirm ==> N** to **Confirm ==> Y** and press Enter.  
The KCIJPCFG job is displayed, tailored with the values you have configured.
  - i. Review the notes and values and submit the job, then return to the Workflow main panel.
2. (Optional) Clone customized members from the model runtime environment (&clone\_from).
- a. Type U or UTIL from the Workflow main menu.  
The UTILITIES (KCIPQPGU) panel is displayed.
  - b. Type the option number for the **KCIJPCCF** job that clones customized members (*Kpp\$C\**, *Kpp\$P\*/Kpp@P\**, *Kpp\$S\**), \$JOB CARD, and the \$GBL\$USR global profile) from an existing WCONFIG library to a new one.
  - c. Review the job to determine if you need to modify the library concatenated in the OLDWCNFG DDNAME.  
By default, this DDNAME already points to the WCONFIG library that you specified in the RTE profile library field of the first work environment setup panel. If necessary, modify the job to point to an existing WCONFIG library that contains the customized members you want cloned over to the WCONFIG library for the new runtime environment.
  - d. Submit the job and return to the main Workflow panel.

The specified members are copied to the WCONFIG library for the new runtime environment.

3. Merge the configuration profile parameter values from the model runtime environment into the new one.
  - a. Type U or UTIL from the Workflow main menu.  
The UTILITIES (KCIQPGU) panel is displayed.
  - b. Type the option number for the **KCIJPMCF** job.
  - c. Review the job and make any required changes.  
By default, the OLDMEM(&value) parameter is already set to the runtime environment you specified in the first setup panel (in this example, TSTEST.&userid.&clone\_from.WCONFIG(&clone\_from)).

```

=====
EDIT TSTEST.&userid.&rte_name.WCONFIG(KCIJPMCF)
Command ==>                               Scroll ==> CSR
000068 /* MERGECHG Step:
000069 /* Merge the changes in %OLDMEM% into %NEWMEM% member.
000070 /* *****
000071 //MERGECHG EXEC PGM=IKJEFT01,DYNAMNBR=99,REGION=4M
000072 //SYSEXEC DD DISP=SHR,
000073 // DSN=TSTEST.ITM62351.TKANCUS
000074 //SYSTSPRT DD SYSOUT=*
000075 //SYSPRINT DD SYSOUT=*
000076 //SYSTSIN DD *
000077 KCIPLBX +
000078 BATCH +
000079 SKIPVAR(TSTEST.ITM62351.TKANCUS(KCIDPGNX)) +
000080 OLDMEM(TSTEST.&userid.&clone_from.WCONFIG(&clone_from)) +
000081 NEWMEM(TSTEST.&userid.&rte_name.WCONFIG(&rte_name))
000082 /*
=====

```

- d. Review and submit the job and return to the Workflow main menu.
4. Customize the configuration profiles for the new environment.
  - a. From the Workflow menu, select option 2.  
The Customize PARMGEN Configuration Profile Members panel is displayed.

```

KCIQ@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
Quick Configuration Mode
(Required) Customize the RTE profile and the $GBL$USR user profiles:
(Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

*1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
*2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
*3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
global library (TDITN.IDTST.PARMGEN.JCL).
Add/Modify system/user-defined symbols and their
resolution values, for override variables used as parameter
values in the $DOCRTE RTE and $GBL$USR global profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.

4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:

5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
7. $SYSIN $PARSE/$PARSES SYSIN controls (CONFIG/SELECT MEMBER)

Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Select option 1 to customize the LPAR configuration for the new runtime environment.  
Change any instances of &clone\_from inherited from the model environment to &rte\_name, and change any LPAR-specific values, such as host name.

- c. After you complete any necessary changes, press F3 to return to the Customize PARMGEN Configuration Profile Members panel.
  - d. If necessary, edit the \$GBL\$USR and &rte\_name system variables configuration files, then return to the Customize PARMGEN Configuration Profile Members panel.
  - e. Run the DLAJOB to auto-discover other RTE-specific parameters by typing DLAJOB in the command line and pressing Enter.
  - f. Submit the DLAJOB and return to the main Workflow panel.
5. Validate the configuration profile values that you supplied:
    - a. Type U or UTIL from the Workflow main menu.  
The UTILITIES (KCIPQPGU) panel is displayed.
    - b. Type the option number for the **KCIJVAL** job.
    - c. Review the notes and submit the job.  
The parameter validation report is written to &hilev.&rte.WCONFIG(\$VALRPT). Enter option number + s, for example 23s, in the UTILITIES menu to view the report.
    - d. If the job gets a condition code greater than 4 (COND CODE 0004), review the \$VALRPT. Return to the previous step and correct the parameter values, then resubmit the validation job.
  6. Create the WK\* runtime members and the WKANSAMU jobs:
    - a. Select option 3.  
The CREATE THE RTE MEMBERS AND JOBS (KCIP@PR1) panel is displayed.
    - b. Select option 1 to submit the generated \$PARSE composite job.
    - c. Review the job, then submit the job.  
Return to the main Workflow panel.
  7. Submit the batch jobs to complete the setup of the runtime environment:
    - a. Select option 4 from the Workflow main menu.  
The Submit Batch Jobs to Complete PARMGEN Setup (KCIP@SUB) panel is displayed.
    - b. Select option 1 if you want to submit the KCIJPSUB composite SUBMIT job, or select the other options to submit each job individually. If you select option 1, review the KCIJPSUB job first, and edit the job according to which of the conditional jobs need be submitted automatically and which need to be submitted manually (for example, for reasons of authorization).

```
KCIP@SUB ----- SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP -----
Option ==>

Select option 1 to SUBMIT the composite jobs in WKANSAMU for SYSA RTE.
Tip: Review the SUBMIT commands in the KCIJPSUB composite job.

Alternatively, select other options (2-12) to submit each job individually.
Enter ns (1s-12s) for detailed job/task status.
```

Description	REQ	Job Name	Status	Date
1. Composite SUBMIT job (See JCL comments) ** OI **		KCIJPSUB		
2. Allocate runtime R0 and RW datasets	(Yes)	KCIJPALO		
3. Copy SMP/E mbrs from TK*->RK* R0 libs	(Yes)	KCIJPLOD		
4. Run product security steps	(Yes)	KCIJPSEC		
5. Update variable-named runtime mbrs	(No )	KCIJPUPV		
6. (Re)Create USS runtime mbrs in RKANDATV	(Yes)	KCIJPUSP		
7. Create USS dirs./ (Re)Copy USS files	(Yes)	KCIJPUSS		
8. Copy runtime mbrs to SYS1-type libs (Caution)		KCIJPSYS		
9. Run post-SMP/E RKANMODU ASM/LINK steps	(Yes)	KCIJPLNK		
10. Verify the configuration jobs	(Tip)	KCIJPIVP		
11. Back-up RK* product execution user libs	(Tip)	KCIJPCPR		
12. Copy runtime mbrs from WK*->RK* RW libs	(Yes)	Enter 12 for details.		

```
Press F1=Help for more information. Type UTIL to access utility menu.
```

- c. Submit the job.

## Result

You have created a customized copy of an existing runtime environment.

## What to do next

If necessary, copy the PARMGEN libraries to the target LPAR. Complete any of the configuration required outside of the configuration software and start the products.

## Cloning an existing environment with system variables enabled

This scenario clones an existing runtime environment (RTE), which currently runs on LPAR SYSG, to create a new RTE, which will run on LPAR SP14. Support for system variables is enabled, to facilitate the deployment of the cloned RTE to other RTEs.

### Before you begin

This scenario uses the PARMGEN Workflow user interface to set up the work environment, customize profiles, and create and submit the jobs that create the runtime environment. For instructions on launching the interface, see [“Accessing the Workflow menu” on page 428](#).

### About this task

This task involves 8 steps:

1. Create the PARMGEN work environment.
2. Clone the customized WCONFIG members from the model runtime environment.
3. Update the interim libraries and create the configuration profiles for the new environment.
4. Merge the LPAR profile from the model environment with the LPAR profile for the new environment.
5. Customize the profiles for the new environment.
6. Validate the profile parameter values.
7. Create the runtime members and jobs.
8. Submit the jobs to create the runtime environment.

Where these steps are run depend upon the transport scenario you are following (see [PARMGEN transport scenarios](#)).

Complete these steps to create sample runtime environment PLB3SP14.

### Procedure

1. Set up the PARMGEN work environment for the new RTE.
  - a. On the PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU (KCIPQPGA) panel, specify the parameters to identify the new RTE and press Enter.  
Note that if you did not invoke the R (RESET) option, the values for GBL\_USER\_JCL, RTE\_PLIB\_HILEV, and RTE\_NAME are carried forward from the last environment you created. If the values for the GBL\_USER\_JCL library and the high-level qualifier for the work libraries are correct, change the RTE\_NAME to the name you want to use for the new environment.

#### **GBL\_USER\_JCL**

Specify the dataset name of the PARMGEN global user JCL library for the new runtime environment. If the dataset does not exist, you are prompted to correct the name or allocate the data set.

#### **RTE\_PLIB\_HILEV**

Specify the non-VSAM high-level qualifier you want to use for the PARMGEN work libraries for the new runtime environment.

#### **RTE\_NAME**

Unique name for the runtime environment you are configuring. The name you specify is appended to the RTE\_PLIB\_HILEV values to make each set of PARMGEN and runtime libraries unique. PLB3SP14 is used in this example

The PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU (KCIPQPGB) panel is displayed.

- b. Select option 1 from the menu.  
The Set up PARMGEN Work Environment for an RTE (1 of 1) (KCIPQPG1) is displayed.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode

                                More:      +

Specify the RTE model profile to use:
==> -----

- To create a new RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create a new RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create a new RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(SYSA))
- To create a new RTE from scratch, leave this field blank.
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITNT.IDTST.SYSA.WCONFIG(SYSA))

Customize jobcard data:
==> //TDITNT JOB (ACCT),'%SYSTEMEMBER% - NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /***  0 0 RTE_NAME=%RTE_NAME% SYSTEMEMBER=%SYSTEMEMBER%-----
==> /***  \~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Specify the Install Job Generator (JOBGEN) output library if you want
PARMGEN to reuse CALLLIBS parameters from the JOBGEN repository:
==> -----
(Type ? for last referenced JOBGEN library discovered, if any.)

```

- c. In the first field, specify the fully-qualified name of the RTE profile for the RTE you want to clone. In this example, the model environment is TSTEST.&userid.PLB3SP13.WCONFIG(PLB3SP13). If appropriate, supply the Install Job Generator output library and job card information.

```

KCIPQPG1 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (1 OF 3) -----
Command ==>

                                Quick Configuration Mode

                                More:      +

Specify the RTE model profile to use:
==> TSTEST.&userid.PLB3SP13.WCONFIG(PLB3SP13)-----

- To create an RTE from scratch, leave this field blank.
- To create an RTE based on a predefined IBM model, type a ? in
  the field and press Enter, then select the appropriate template.
- To create an RTE that is a clone of an existing PARMGEN RTE,
  specify the WCONFIG profile library and RTE member name to clone;
  for example: (&hlq.&rte.WCONFIG(&clone_from))
- To create an RTE that is a clone of an ICAT-created RTE,
  specify the ICAT RTE Batch member location and RTE member;
  for example: (&hlq.ICAT.INSTJOBS(PLB3SP14))
- To reconfigure or upgrade this existing PARMGEN RTE, specify its values;
  for example: (TDITN.IDTST.DEMO.WCONFIG(PLB3SP14))

Customize jobcard data:
==> //&userid.J JOB (ACCT),'%SYSTEMEMBER% -
NAME',CLASS=A,-----
==> // MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M-----
==> /***  0 0 RTE_NAME=%RTE_NAME% SYSTEMEMBER=%SYSTEMEMBER%-----
==> /***  \~/ SYSJOBNAME=%SYSJOBNAME% JOBPARM SYSAFF=%SYSNAME%-----

Press F1=Help for more information. Type UTIL to access utility menu.

```

- d. Press Enter to proceed to the next panel.  
The second set up panel is displayed:

```

KCIP@PG2 SET UP/REFRESH PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3) -----
Command ==>
                                Quick Configuration Mode
GBL_USER_JCL:  TDITN.IDTST.PARMGEN.JCL
RTE_PLIB_HILEV: TDITM.IDTST
RTE_NAME:      SYSA

Enter parameter values appropriate for your environment:

                                UNIT / STORCLAS /
                                VOLSER / MGMTCLAS /
GBL_TARGET_HILEV: IBM.TARGET.ITM63055_____ / _____ /
                   HLQ of SMP/E target (TK*) datasets  _____
GBL_SYSDA_UNIT:   SYSDA___
                   Work datasets UNIT name
GBL_REGION:      OM_____
                   JCL REGION (specify K/M suffix)

Note: Type BACK to go back one panel.  Type UTIL to access utility menu.

```

- e. Review the values on the panel and override them as necessary. These values for the parameters on this panel are read from the RTE you are cloning from. You might want, for example, the new RTE to point to a different set of target libraries which has newer versions of the products installed.
- f. Press Enter to display the next panel. The third set up panel is displayed:

```

KCIP@PG3 ---- SET UP PARMGEN WORK ENVIRONMENT FOR AN RTE (3 OF 3) -----
Command ==>  Scroll ==> PAGE

Enter parameter values appropriate for the LPAR RTE=&rte_name.
Press F1=Help for more information.

RTE_DESCRIPTION:      &rte_name-----
RTE_SMS_PDSE_FLAG:    Y (Y, N) (Allocate Non-VSAM PDSE libs)
RTE_SMS_UNIT:         ----- (Non-VSAM disk UNIT type)
RTE_SMS_VOLUME:       ----- (Non-VSAM disk VOLSER)
RTE_SMS_MGMTCLAS:     ----- (Non-VSAM disk MGMTCLAS)
RTE_SMS_STORCLAS:     ----- (Non-VSAM disk STORCLAS)
RTE_SMS_VSAM_VOLUME: ----- (VSAM disk VOLSER)
RTE_SMS_VSAM_MGMTCLAS: ----- (VSAM disk MGMTCLAS)
RTE_SMS_VSAM_STORCLAS: ----- (VSAM disk STORCLAS)

RTE_TYPE:             SHARING____ (FULL, SHARING)
RTE_HILEV:            TSTEST.&userid-----
                      (&hlq portion of Non-VSAM RK* HLQ=&hlq.&rte_name)
RTE_VSAM_HILEV:       TSTEST.&userid-----
                      (&hlq portion of VSAM RK* HLQ=&hlq.&rte_name)

If RTE_TYPE is SHARING:
  RTE_X_HILEV_SHARING: TSTEST-----
                      (&hlq portion of shared RTE's HLQ=&hlq.&rte_share)
  RTE_SHARE:           BASE&SYSALVL.----- ("SMP" value or *&rte_share)
                      (*&rte_share portion of shared RTE's HLQ=&hlq.&rte_share)
  RTE_LOAD_SHARED_LIBS: Y (Y, N) (Is RTE updater of R0 shared libs)

If symbolics (system variables or user-defined variables) will be used:
  RTE_SYSV_SYSVAR_FLAG: Y (Y, N) (System variable flag)

Security settings:
  RTE_SECURITY_USER_LOGON: NONE----- (RACF, ACF2, TSS, NAM, None)
  RTE_SECURITY_FOLD_PASSWORD_FLAG: Y (Y, N) (Fold password to upper case)
  RTE_SECURITY_CLASS: -----
  RTE_X_SECURITY_EXIT_LIB: TSTEST.&userid.PLB3&SYSNAME..RKANSAMU-----
  GBL_DSN_ACF2_MACLIB: -----
  GBL_DSN_ACF2_MACLIB1: -----

Local Tivoli Enterprise Monitoring Server (TEMS) settings in this LPAR RTE:
  RTE_TEMS_CONFIGURED_FLAG: Y (Y, N) (Configure TEMS in this RTE)
  RTE_TEMS_NAME_NODEID: PLB3&SYSNAME.:CMS----- (e.g.,CLONETST:cms)
  KDS_TEMS_TYPE:         REMOTE (Hub, Remote)
  KDS_TEMS_HA_TYPE:      -- (HA=High Availability Hub TEMS type)

ITM components' communication-related and started tasks settings:
  RTE_TCP_PORT_NUM:      1918----- (1-65535 port number)
  RTE_VTAM_APPLID_PREFIX: TS&SYSCLONE.----- (1-4 char.VTAM APPLID prefix)
  RTE_STC_PREFIX:        TSS3----- (1-4 char.started task prefix)
Note: Type BACK to go back one panel.

```

The values on panel are taken from the RTE that you are cloning (TSTEST.&userid.PLB3SP13.WCONFIG(PLB3SP13), in this case). Because this is a sharing RTE, you should set RTE\_LOAD\_SHARED\_LIBS to N, so that only one RTE is loading the shared libraries. You do not need to make any other changes on this panel. However, if you do make changes to any of the following parameters, you will need to make the same changes to the corresponding Kpp\_\* parameters in the RTE profile of the new RTE.

- Started task prefix
- VTAM applid prefix
- Port number
- RTE high-level qualifier
- VSAM high-level qualifier

g. Press Enter to proceed to the next panel.

The Include Products in this PARMGEN RTE panel (KCIP@PGI) is displayed.

This panel lists all the installed products that are available for configuration by product code (Kpp) and product name and version. The products marked with a slash (/) are the ones already configured in the RTE being cloned, but the version represents the latest version available. If you include these products, they will be upgraded to the version in the target libraries. In this example,

a monitoring server, OMEGAMON for z/OS, OMEGAMON for CICS, and the OMEGAMON enhanced 3270 user interface are already configured.

```
KCIP@PGI - INCLUDE (CONFIGURE) INSTALLED PRODUCT(S) IN THIS LPAR R Row 1 of 26
Command ==>>                               Scroll ==>> PAGE

Select ("S" or "/" ) products to CONFIGURE those product(s) in DEMO RTE.
Select or deselect products to include or exclude from configuration.
Products configured in the model or current RTE (reconfiguring) are preselected

When finished, change N to Y to confirm selections.  Confirm ==> N (Y, N)

  Kpp  Component or Product Name and Version
-----
/ KAH  System Automation Monitoring Agent V350
/ KC5  OMEGAMON for CICS V550
/ KDO  Tivoli Decision Support for z/OS Agent V181
/ KDS  Tivoli Enterprise Monitoring Server V630
/ KD4  ITCAM for SOA Agent V711
/ KD5  OMEGAMON for DB2 PE V550
/ KGW  OMEGAMON for CICS TG V550
/ KI5  OMEGAMON for IMS V550
/ KJJ  OMEGAMON for JVM V540
/ KMQ  OMEGAMON for Messaging - MQ V750
/ KM5  OMEGAMON for z/OS V550
/ KNA  NetView for z/OS Agent V621
/ KN3  OMEGAMON for Networks V550
/ KOB  OMEGAMON Enhanced 3270 User Interface V750
/ KQI  OMEGAMON for Messaging - Integration Bus V750
/ KRG  Advanced Audit for DFSMSHsm Agent V260
/ KRH  Advanced Reporting and Management for DFSMSHsm Agent V260
/ KRJ  Advanced Allocation Management Agent V330
/ KRK  Automated Tape Allocation Manager for z/OS Agent V330
/ KRN  Advanced Catalog Management Agent V260
/ KRV  Advanced Backup and Recovery for z/OS Agent V240
/ KRW  Tape Optimizer for z/OS Agent V220
/ KS3  OMEGAMON for Storage V540
/ KYN  ITCAM for Application Diagnostics, TEMA V710.03
End of data
```

- h. If you want to install additional products, select them by typing a slash next to the product code. Deselect any products you do not want to include in the new RTE. Then, change **Confirm ==> N** to **Confirm ==>Y** and press Enter.  
The KCIJPCFG job is displayed, tailored with the values you have configured.
  - i. Review the notes, then submit the job.  
You are returned to the main Workflow panel. Wait until you see a successful return code before you proceed to the next step.
2. Clone the customized members from the model environment.
    - a. Type U or UTIL from the Workflow main menu.  
The UTILITIES (KCIPQPGU) panel is displayed.
    - b. Type the option number for the **KCIJPCCF** job that clones customized members (*Kpp\$C\**, *Kpp\$P\*/Kpp@P\**, *Kpp\$\$\**), \$JOB CARD, and the \$GBL\$USR global profile) from an existing WCONFIG library to a new one.
    - c. Review the job to determine if you need to further modify the library concatenated in the OLDWCNFG DDNAME.  
By default, this DDNAME already points to the WCONFIG library that you specified in the RTE profile library field of the first set up panel. Modify as needed to point to an existing WCONFIG library that contains the customized members you want cloned to the WCONFIG library of the new runtime environment.
    - d. Submit the job.  
You are returned to the main Workflow panel.
  3. After you return to the main Workflow panel, merge the values from the model RTE profile into the new environment:
    - a. Type U or UTIL from the Workflow main menu.  
The UTILITIES (KCIPQPGU) panel is displayed.
    - b. Type the option number for the **KCIJPMCF** job.
    - c. Review and customize the KCIJPMCF job.

The WCONFIG(KCIJPMCF) job merges or clones another version of the WCONFIG profiles (the %RTE\_NAME% RTE LPAR profile and \$GBL\$USR) into a refreshed copy or cloned copy. In this case, the PLB3SP13 runtime environment has already been fully customized; its PARMGEN profile already uses symbolics. So to save time, clone its values into PLB3SP14 by editing the OLDMEM() parameter to point to the WCONFIG(PLB3SP13) value.

```

=====
EDIT TSTEST.&sysuid.PLB3SP14.WCONFIG(KCIJPMCF)
Command ==>
                                Scroll ==> CSR
000068 /* MERGECHG Step:
000069 /* Merge the changes in %OLDMEM% into %NEWMEM% member.
000070 /* *****
000071 //MERGECHG EXEC PGM=IKJEFT01,DYNAMNBR=99,REGION=4M
000072 //SYSEXC DD DISP=SHR,
000073 // DSN=TSTEST.ITM62351.TKANCUS
000074 //SYSTSPRT DD SYSOUT=*
000075 //SYSPRINT DD SYSOUT=*
000076 //SYSTSIN DD *
000077 KCIRPLBX +
000078 BATCH +
000079 SKIPVAR(TSTEST.ITM62351.TKANCUS(KCIDPGNX)) +
000080 OLDMEM(TSTEST.&userid.PLB3SP13.WCONFIG(PLB3SP13)) +
000081 NEWMEM(TSTEST.&userid.PLB3SP14.WCONFIG(PLB3SP14))
000082 /*
=====

```

- d. Submit the job.
4. Customize the configuration profiles for the new RTE.
    - a. From the Workflow menu, select option 2.  
The Customize PARMGEN Configuration Profile Members panel is displayed.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Option ==>
                                Quick Configuration Mode
                                (Required) Customize the RTE profile and the $GBL$USR user profiles:
                                (Tip) Review KCIJPDLA autodiscovery job in Utility menu or type DLAJOB cmd.

                                *1. SYSA RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
                                *2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

                                (Required) Customize the Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
                                *3. SYSA Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
                                    global library (TDITN.IDTST.PARMGEN.JCL).
                                    Add/Modify system/user-defined symbols and their
                                    resolution values, for override variables used as parameter
                                    values in the $DOCRTE RTE and $GBL$USR global profiles.

                                (Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
                                (Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.

                                4. WCONFIG TDITN.IDTST.$DOCRTE.WCONFIG

                                (Tip) Review if you want to compare with IBM-supplied default profile values:

                                5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
                                6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

                                (Optional) Override SYSIN member to supply additional (User) profiles:
                                7. $SYSIN $PARSE/$PARSES SYSIN controls (CONFIG/SELECT MEMBER)

                                Press F1=Help for more information. Type UTIL to access utility menu.

```

- b. Customize the LPAR configuration profile.

TUTORIAL INFORMATION

  - i. Select option 1 to display the LPAR profile:
  - ii. Change any references to PLB3SP13 (the model environment) to PLB3SP14 (the current environment).

**Important:** In a system variables scenario, the only parameters that *must* have a nonsymbolic value are RTE\_NAMESV, RTE\_HILEVSV, and RTE\_VSAM\_HILEVSV parameters, as these are used directly in the WKANSAMU(KCIJV\*) jobs. In the following example of the RTE\_NAMESV parameter, the value must remain PLB3SP14:

```
ISREDDE2 TSTEST.&userid.PLB3SP14.WCONFIG(PLB3SP14)
Command ==> C PLB3SP13 PLB3SP14 ALL                               Scroll
==> CSR
***** ***** Top of Data
***** *****
- - - - - 354 Line(s) not
Displayed
==CHG> RTE_NAMESV   PLB3SP14
- - - - - 904 Line(s) not
Displayed
***** ***** Bottom of Data
***** *****
```

- iii. You must also change any Db2, IMS subsystem names, CICS regions specific to the LPAR, MQ manager and subsystem names, and their related load libraries, inherited from the model runtime environment.
- c. Customize the system variables configuration profile to define all user symbols used in the LPAR profile.

#### TUTORIAL INFORMATION

- i. From the Customize PARMGEN Configuration Profile Members, select option 3. The TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP14) system variables profile is displayed.
- ii. Because the PLB3SP14 LPAR profile inherited its symbolics from the cloned PLB3SP13 LPAR profile, simply replace the contents of TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP14) with the TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP13) system variables profile parameters, then change the LPAR-specific symbolic values accordingly.

```
ISREDDE2 TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP14) - 01.16 Columns 00001
00072
Command ==> C SP13 SP14 ALL                               Scroll ==>
CSR
***** ***** Top of Data
***** *****
000100 * *****
000110 * Member: KCI$RTEV
000120 * Master Source: TSTEST.ITM62351.TKANSAM(KCI$RTEV)
000130 * KCIJPUP1 Batch Job Output (PART 3):
000131 * TSTEST.&userid.PLB3SYSG.IKANSAMU(KCI$RTEV) - IBM Default Copy
000140 * TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP14) - Customer Copy
000150 * Purpose:
000160 * TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP14)
000170 * member houses user-defined symbolics for this RTE if
000180 * System Variables mode is enabled.
000190 * Note: These are symbolics in addition to the typical static
000200 * system symbols defined in SYS1.IPLPARM and system
variables
000210 * derived by KCIPARSE program (for TYPE:CE (CHAR extracted)
000221 * and TYPE:IE (INTEGER extracted) KCIPARSE-extracted
symbolics
000222 * for System Variables use in the SYSPRINT DDNAME's GLOBAL
000224 * VARIABLE TABLE SUMMARY of a KCIPARSE run).
```

```

000227 * Instructions:

000228 *   Add your user-defined symbolics below, if any.

.
000284 *
*****
000285 * SECTION: PRE-DEFINED / USER-DEFINED SYMBOLICS
*
000286 *
*****
000287 * ----- BEGIN - USER SECTION: PRE-DEFINED SYMBOLICS
----- *
000288 * =====
=====

000289 * User-defined symbolic:          Resolved value:
000290 * =====
=====

000291 AGT_TEMS_BKUP1_NAME_NODEID        PLB1SP22:CMS
000292 AGT_TEMS_BKUP1_TCP_HOST          SP22
000293 AGT_TEMS_BKUP1_VTAM_LU62_DLOGMOD CANCTDCS
000294 AGT_TEMS_BKUP1_VTAM_APPL_LLB_BKR CTDDSLB
000295 AGT_TEMS_BKUP1_VTAM_NETID        USIBMNET

000296 * ----- END - USER SECTION: PRE-DEFINED SYMBOLICS
----- *
000297 * ----- BEGIN - USER SECTION: USER-DEFINED SYMBOLICS
----- *
000298 * =====
=====

000299 * User-defined symbolic:          Resolved value:
000300 * =====
=====

000400 * ----- END - USER SECTION: USER-DEFINED SYMBOLICS
----- *
008300 * ----- BEGIN - USER SECTION: USER-DEFINED SYMBOLICS
----- *

000086 * Type 1: Static symbol override
000087 SYSNAME                          SP13
000088 SYSPLEX                          LPAR400J
000089 SYSALVL                            2
000090 SYSCLONE                            SP13
000091 * Type 2: KCIPARSE-extracted symbols
000092 SYSVTAMNETID                       USIBMNET
000093 SYSIPHOSNAME                        SP13
009400 * Type 3: User defined symbols

009500 RTE_USS_RTEDIR                       /tstest

009710 KDS_HUB_TEMS_NAME_NODEID             "PLB1SP22:CMS"
009711 KDS_HUB_VTAM_APPL_GLB_BROKER      CTDDSLB
009720 KDS_HUB_VTAM_NETID                 USIBMNET
009730 KDS_HUB_TCP_HOST                   SP22

009780 KDS_HUB_TCP_PIPE_PORT_NUM          nnnnn
009790 KDS_HUB_TCP_UDP_PORT_NUM          nnnnn
009800 GBL_HFS_JAVA_DIR1                 /Java/J6.0
***** ***** Bottom of Data *****
*****

```

Since a secondary monitoring server was enabled for these agents, each backup (secondary) monitoring server now points to the same hub monitoring server (the static hub monitoring server, started task TSSODSH1, in the PLB3SP14 environment).

If you need the PLB3SP13 remote monitoring server and agents to use other values, make further edits to the TSTEST.SYSPLEX.PARMGEN.JCL(PLB3SP14) variables profile.

- iii. Save the changes and exit the profile. Press F3 to return to the main Workflow panel.

5. Validate the profile parameter values you specified.
  - a. Type U or UTIL from the Workflow main menu. The UTILITIES (KCIPQPGU) panel is displayed.
  - b. Type the option number for the **KCIJPVAL** job.
  - c. Review the notes and submit the job. The parameter validation report is written to `&hilev.&rte.WCONFIG($VALRPT)`. Enter option number + s, for example 23s, in the UTILITIES menu to view the report.
  - d. If the job gets a condition code greater than 4 (COND CODE 0004), review the \$VALRPT. Return to the previous step and correct the parameter values, then resubmit the validation job.
6. Create the WK\* runtime members and the WKANSAMU jobs:
  - a. Select option 3. The CREATE THE RTE MEMBERS AND JOBS (KCIP@PR1) panel is displayed.
  - b. Select option 1 to submit the generated \$PARSE composite job.
  - c. Review the job, then submit the job. Return to the main Workflow panel.
7. Complete the setup of the environment.
  - a. Select option 4 from the Workflow main menu. The Submit Batch Jobs to Complete PARMGEN Setup (KCIP@SUB) panel is displayed.
  - b. Select option 1 to submit the KCIJVSUB composite SUBMIT job, or select the other options to submit each job individually. If you select option 1, review the KCIJVSUB job first, and edit the job according to which the conditional jobs can be submitted automatically, and which must be submitted manually by someone with the required authority. If you select option 1, you are prompted with the following message:

```

KCIP@MSG ----- PARMGEN MESSAGES -----
Command ==>

The KCIJVSUB composite job submits several PARMGEN
configuration jobs via TSO SUBMIT commands. Some of
those SUBMIT commands are commented out. Carefully
review the comments in the JCL to determine which
of those jobs you do or do not want to submit.
Uncomment the SUBMIT commands of those jobs that
you want to submit.

Do NOT delete any SUBMIT commands as they may be
needed in the future.

```

- c. Press Enter. The following message is displayed:
 

```

KCIP@PGP ----- PARMGEN MESSAGES -----
Command ==>

In a system variable environment, job KCIJVSUB runs $PARSESV
to customize then submit the KCIJPSUV job. EDIT and modify
the KCIJPSUV job as appropriate. See comments in the JCL for
further information.
DO NOT MANUALLY SUBMIT THE KCIJPSUV JOB!

```
- d. Press ENTER to edit the KCIJPSUV job, then press F3, and you are automatically presented with the KCIJVSUB job for submission.

#### TUTORIAL INFORMATION

### Result

You have created runtime environment PLB3SP14.

### What to do next

Perform the applicable "Complete the configuration" steps in your planning and configuration guides.

---

## How-tos

*How-tos* provide some best practices and instructions for performing specific tasks. The topics in this section tell you *how to* perform these tasks. These instructions are meant to help you complete commonly used processes.

**Note:** For more *how to* topics, see the following sections:

- [“How-tos using Configuration Manager” on page 356](#)
- [“How-tos using PARMGEN” on page 481](#)

---

## How to: Write a message to the console for a situation

You can use the Take Action command **ZOSWTO** (z/OS WTO) to write a message to the z/OS operator console for a situation.

### Before you begin

You can use the Take Action command **ZOSWTO** when creating a situation using any of the available methods (such as, Tivoli Enterprise Portal, enhanced 3270 user interface, **tacmd** CLI).

**Note:** The information in this topic describes the use of the **ZOSWTO** command to issue a message to the console for a situation. You can also use the **SEND** command. For more information, see [Using the Enhanced 3270 UI to create an ITM situation that writes a message to the z/OS console](#).

### About this task

When defined for a situation, the Take Action command **ZOSWTO** writes a multi-line write-to-operator (WTO) message to the operator console when the situation occurs. The multi-line WTO is issued on the z/OS monitoring server (TEMS) that an agent is connected to or on a z/OS monitoring agent (TEMA). The message is produced when the situation is true or false. Any data that follows the command name will be present in the multi-line message.

To use the command, when creating a situation, include the **ZOSWTO** Take Action command in the following format:

```
ZOSWTO user_supplied_content
```

Where the *user\_supplied\_content* defines the content to include in the WTO message and can include text and product variables.

When the situation is triggered, message [K041041I](#) is issued in the operator console in the following format:

```
K041041I SITUATION EVENT situation_event_id  
situation_name:node_name <optional_display_item_value> T|F user_supplied_content
```

The situation event is identified in the multi-line message by the *situation\_event\_id*. *situation\_name* is the name of the situation, and *node\_name* is the origin node related to the event.

*optional\_display\_item\_value* is the display item, if one is defined for the situation. The message is produced when the situation is true (T) or false (F). The *user\_supplied\_content* is the content as defined in the **ZOSWTO** command. When the situation is false, the values of substitution variables in the *user\_supplied\_content* are N/A.

The message data is divided into 70-character sections on a maximum of five consecutive lines.

**Tip:** If you will be using automation to react to a situation based on the message in the operator console, when you define the **ZOSWTO** command for a situation, consider adding identifying information in the *user\_supplied\_content*, such as a unique identification number or a label. Because every triggered situation with a defined **ZOSWTO** command will produce message K041041I, you will need to parse other details to differentiate the messages. The ability to scan for unique, known information can help to quickly identify the messages for a specific situation.

By default, **ZOSWTO** uses the WTO options routing code 2 (operator information) and descriptor code 12 (important information). You can change the default values for these options by specifying parameters **ZOSWTO\_ROUTE\_CODE** and **ZOSWTO\_DESCRIPTOR\_CODE** in the *KppENV* member of *RKANPARU*, where *pp* is the code for the OMEGAMON product or component that you want to update. You can also override these values when specifying the **ZOSWTO** command using the following format:

```
ZOSWTO [routing_code/descriptor_code] user_supplied_content
```

**Note:** In addition to defining the **ZOSWTO** command as an action in a situation, you can also use the Tivoli Enterprise Portal Take Action feature to manually enter the **ZOSWTO** command, which requires the following format to override the routing code and descriptor code:

```
ZOSWTO [*routing_code/*descriptor_code] user_supplied_content
```

## Procedure

- Using any of the available methods (such as, Tivoli Enterprise Portal, enhanced 3270 user interface, **tacmd** CLI), create a situation that includes Take Action command **ZOSWTO** and defines the content (including product variables) to appear in the WTO message. When the situation occurs, message K041041I, with a maximum of five consecutive lines, is written to the operator console.

This example describes how to use the **ZOSWTO** command to write a message to the console for a specific situation that is detected by the IBM OMEGAMON for Messaging on z/OS, IBM MQ Monitoring agent. This example provides implementation steps for both the enhanced 3270 user interface and the Tivoli Enterprise Portal, and also provides sample output messages.

The scenario for this example is to detect when the MQ Event for Queue Depth High has occurred, and, when this event occurs, to issue a message to the operator console that provides the name of the MQ queue manager, the name of the MQ resource (queue name), and the label MQ01W, which will be used for message identification in the log.

**Tip:** Using a label is optional and can help simplify automation if there are multiple situations using the **ZOSWTO** command.

The following **ZOSWTO** command contains the label, the custom text, and the appropriate product variables to report to the operator console for this event:

```
ZOSWTO MQ01W Event queue depth high for Qmgr:&{Current_Events.Reporting_MQ_Manager_Name};  
Queue:&{Current_Events.Resource_Name}
```

To associate this WTO message with the situation, you must define it as a Take Action System Command in the situation. The following sections show how to do this in the enhanced 3270 user interface and the Tivoli Enterprise Portal. Examples of the produced messages in the operator console are also provided.

### Define the **ZOSWTO** command using the enhanced 3270 user interface

Use the Formula tab in the Situation Editor to define the criteria for the situation, as shown in the following figure:

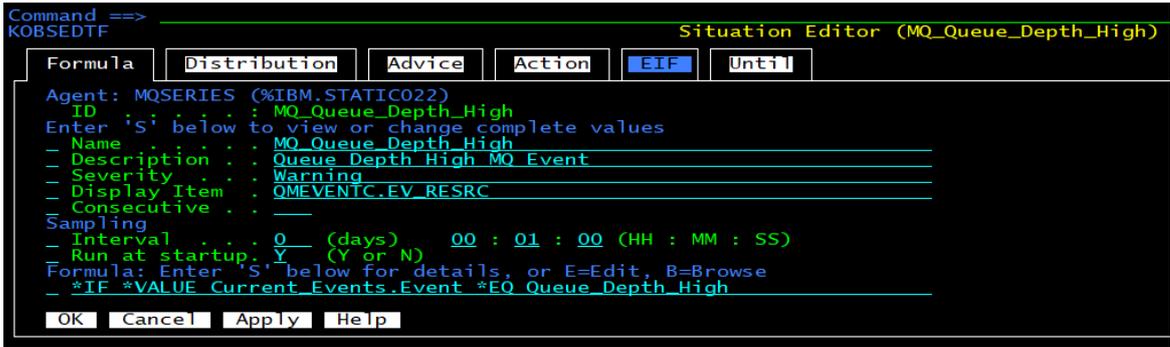


Figure 94: Defining the situation formula using the enhanced 3270 user interface

Notice the following in this example:

- A display item is set so that it will become true for each possible queue. The display item will be included in the WTO message (as *<optional\_display\_item\_value>*) when the situation event occurs.
- The formula for this situation is as follows:

```
*IF *VALUE Current_Events.Event *EQ Queue_Depth_High
```

Then, use the Action Tab of the Situation Editor to enter the **ZOSWTO** command as a System Command. You must type S next to **Command** to enter the complete value of the command, as shown in the following figures:

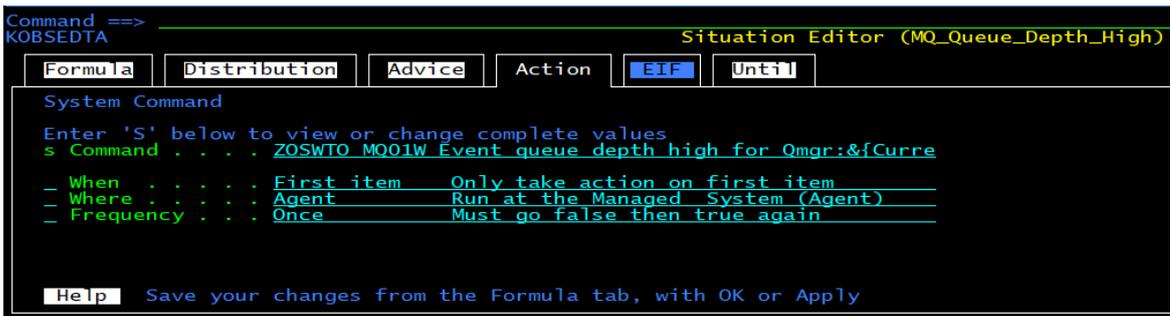


Figure 95: Defining the situation action using the enhanced 3270 user interface

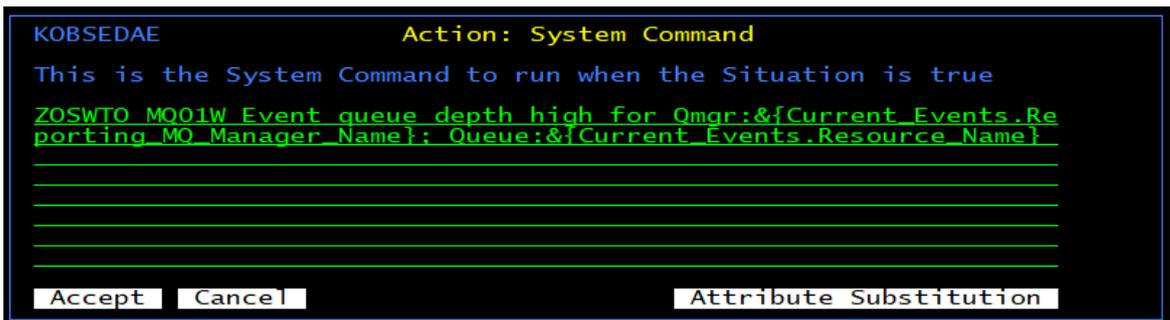


Figure 96: Defining the ZOSWTO command using the enhanced 3270 user interface

### Define the ZOSWTO command using the Tivoli Enterprise Portal

Use the Formula tab in the Situation Editor to define the criteria for the situation. For this example, the formula is the == Queue Depth High event, as shown in the following figure.

**Note:** This situation also has a display item set so that it will become true for each possible queue. The display item will be included in the WTO message (as *<optional\_display\_item\_value>*) when the situation event occurs.

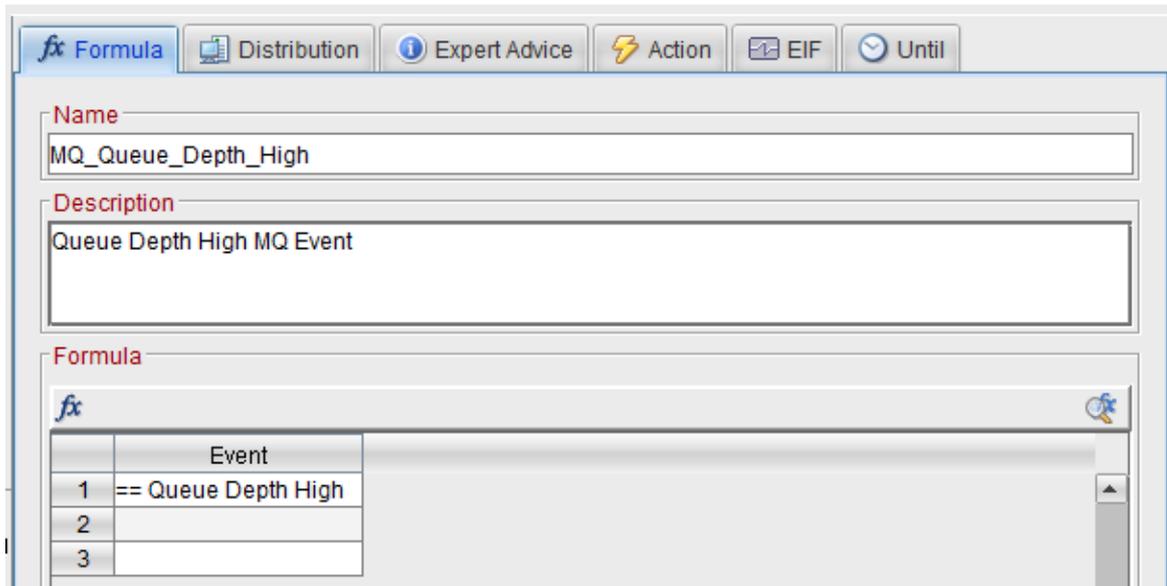


Figure 97: Defining the situation formula using the Tivoli Enterprise Portal

Then, on the Action Tab of the Situation Editor, enter the **ZOSWTO** command as a System Command, as shown in the following figure:

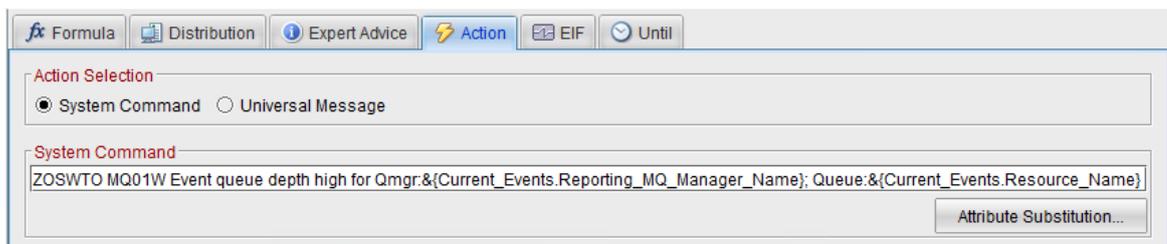


Figure 98: Defining the **ZOSWTO** command using the Tivoli Enterprise Portal

### View the WTO messages in the operator console

When this situation occurs (that is, when the situation is *true*), the following WTO message appears in the operator console:

```
2023096 11:53:18.36 S0780082 00000090 K041041I SITUATION EVENT 607
607 00000090 MQ_Queue_Depth_High:QK20:RSB2:MQESA<ABCAPPL_TYPE2_RECEIVING_Q> T MQ01W
607 00000090 Event queue depth high for Qmgr:QK20; Queue:ABCAPPL_TYPE2_RECEIVING_Q
607 00000090
607 00000090
607 00000090
```

Figure 99: Example WTO message when the situation is true

When this situation clears (that is, when the situation is *false*), the following WTO message appears in the operator console:

```
2023096 12:02:18.35 S0780082 00000090 K041041I SITUATION EVENT 621
621 00000090 MQ_Queue_Depth_High:QK20:RSB2:MQESA<ABCAPPL_TYPE2_RECEIVING_Q> F MQ01W
621 00000090 Event queue depth high for Qmgr:N/A; Queue:N/A
621 00000090
621 00000090
621 00000090
```

Figure 100: Example WTO message when the situation is false

### What to do next

Optionally, based on the occurrence or resolution of the situation event, you can parse the WTO message to drive automation or notify the z/OS systems programmer of the situation.

## How to: Create an HTTP request for a situation

You can use the Take Action command **HTTPRQ** (HTTP Request) to create an HTTP request for a situation.

## Before you begin

You can use the Take Action command **HTTPRQ** when creating a situation using any of the available methods (such as, Tivoli Enterprise Portal, enhanced 3270 user interface, **tacmd** CLI).

## About this task

When defined for a situation, the Take Action command **HTTPRQ** creates an HTTP request when the situation occurs.

To use the command, when creating a situation, include the **HTTPRQ** Take Action command in the following format:

```
HTTPRQ url;hheader;drequest_body
```

Where:

- *url* is the URL address for the request
- *header* is the HTTP header for the request
- *request\_body* is the HTTP request body

The maximum length of the command is 256 characters.

**Note:** In addition to defining the **HTTPRQ** command as an action in a situation, you can also use the Tivoli Enterprise Portal Take Action feature to manually enter the **HTTPRQ** command.

## Procedure

- Using any of the available methods (such as, Tivoli Enterprise Portal, enhanced 3270 user interface, **tacmd** CLI), create a situation that includes Take Action command **HTTPRQ**. When the situation occurs, the HTTP request is issued.

## Example

The following examples show how to define the **HTTPRQ** command:

### Plain text

The following example shows how to echo plain text:

```
HTTPRQ http://ip_address:port/echo;hContent-type: text/plain ;dText
```

### Application

The following example shows how you could use the **HTTPRQ** command to post a message to the Slack application when the situation for which it is defined is true. This example also includes product variables.

**Note:** The example shows each part of the request on a new line for better visibility.

```
HTTPRQ https://hooks.slack.com/services/T00000000/B00000000/XXXXXXXXXXXXXXXXXXXXXXXXX;  
hContent-type: application/json;  
d{"text": "&{Address_Space_CPU_Utilization.Job_Name} CPU use is  
&{Address_Space_CPU_Utilization.CPU_Percent}%"}}
```

---

# OMEGAMON product interfaces

OMEGAMON provides different interfaces that you can use to access data gathered by the OMEGAMON monitoring products.

The following interfaces are available:

- [OMEGAMON® enhanced 3270 user interface](#), an ISPF application

**Note:** “[OMEGAMON multi-tenancy](#)” on [page 1061](#) is a mode in the OMEGAMON enhanced 3270 user interface that allows the monitoring of distinctly separate sets of resources.

- [IBM Z® OMEGAMON® Web UI](#), a graphical user interface that uses Grafana dashboards
- [Tivoli Enterprise Monitoring Server REST services](#), a REST API
- “[IBM Z Service Management Explorer](#)” on [page 1128](#), a web application

**Note:** IBM Z Service Management Explorer requires Tivoli Management Services for z/OS 6.3.1.

- “[Tivoli Enterprise Portal](#)” on [page 1186](#), a thin Java client application

For more information about which user interface is the best choice for you, see “[Decision 10: Which user interfaces to use](#)” on [page 161](#).

---

## OMEGAMON® enhanced 3270 user interface

The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) is the latest generation of user interfaces for the OMEGAMON® monitoring products on z/OS®. Using the enhanced 3270UI in conjunction with OMEGAMON® monitoring agents and the Tivoli® Enterprise Monitoring Server, you can monitor the performance of the z/OS® systems, applications, and devices in your environment and identify and troubleshoot problems with those monitored resources.

**Tip:** You can access the latest documentation, including a list of new features, using the online help in the product. Navigate to the **Help and Workspace Directory** as follows:

- Expand the **HELP** menu and select **H Help Contents**.
- Issue an **h . h** fast path mnemonic in the upper left portion of your screen.
- Issue the **HELP** command from any workspace.

## Product overview

The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) is the latest generation of user interfaces for the OMEGAMON® monitoring products on z/OS®. Using the enhanced 3270UI in conjunction with OMEGAMON® monitoring agents and the Tivoli® Enterprise Monitoring Server, you can monitor the performance of the z/OS® systems, applications, and devices in your environment and identify and troubleshoot problems with those monitored resources.

The enhanced 3270UI offers the following features:

- Plex-wide and single-system views of data
- Autodiscovery of and autoconnection to data sources
- Dynamic behavior and operation

- User-customizable workspaces
- Data filtering
- Cross-product embedded data.
- Near-term History

The enhanced 3270UI supports screen sizes up to 62 x 160, sorting by column, and lateral and vertical scrolling.

In the interface, data is presented in workspaces. The monitoring products that support the enhanced 3270UI provide predefined workspaces that you can use to quickly and easily diagnose problems with monitored resources and take action to correct them. You can customize the workspaces to suit your requirements, and design and create your own workspaces and navigation.

Because the enhanced 3270UI exploits data collected by OMEGAMON® monitoring agents, viewing data in the interface requires that at least one Tivoli Enterprise Monitoring Server is installed in your environment, in addition to any monitoring agents that support the interface. When you navigate to a workspace, one or more data queries are sent to the Tivoli Enterprise Monitoring Server. The monitoring server collects the data from the target agent or agents and sends the data to the interface for display in the workspace.

The following products support both the OMEGAMON Subsystem and the OMEGAMON Enhanced 3270 User Interface features:

- OMEGAMON for CICS (KC5)
- OMEGAMON® AI for Db2 (KD5)
- OMEGAMON for IMS on z/OS (KI5)
- OMEGAMON for z/OS (KM5)
- OMEGAMON for Storage on z/OS (KS5)

The following products support the OMEGAMON Enhanced 3270 User Interface feature and are installed in the same CSI as the OMEGAMON Enhanced 3270 User Interface:

- OMEGAMON for CICS TG (KGW)
- OMEGAMON for JVM (KJJ)
- OMEGAMON for Messaging - MQ (KMQ)
- OMEGAMON for Messaging - Integration Bus (KQI)
- OMEGAMON for Networks (KN3)

The following product supports the OMEGAMON Enhanced 3270 User Interface feature and are installed in a separate CSI from the OMEGAMON Enhanced 3270 User Interface:

- IBM Db2 Query Monitor for z/OS V3.2 (KQQ)

The following products support TSO and ISPF interface OMNIMON Base feature as an alternative to logging onto Classic OMEGAMON via VTAM interface:

- OMEGAMON for CICS (KC5)
- OMEGAMON® AI for Db2 (KD5)
- OMEGAMON for IMS on z/OS (KI5)

## What's new in the OMEGAMON enhanced 3270 user interface (previous updates)

The topics in this section introduce new features and enhancements to the OMEGAMON enhanced 3270 user interface.

**Tip:** You can also access a list of the latest features and enhancements using the online help in the product, by expanding the **HELP** menu and selecting **W Whats New**.

## OMEGAMON enhanced 3270 user interface V7.5.0 PTF UA93322 (3Q17)

OMEGAMON enhanced 3270 user interface 7.5.0 PTF is UA93322 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) 7.5.0:

### Situation Editor enhancement

A more user-friendly way of editing the formula of a situation via the Situation Formula workspace (KOBSEDPA). The formula is displayed in the workspace as a set of rows and columns. Each column is the name of a monitoring system attribute or the name of another situation. When you edit the cells by typing the E action character in the cell, a series of pop-up windows will display with the following items to choose from:

- Available tables and columns
- Available functions (VALUE, AVERAGE, etc.)
- Available operators (EQ, NE, etc.)
- Available values (strings, numbers, and ENUM values.)

## OMEGAMON enhanced 3270 user interface PTF UA83356 for APAR OA51564

APAR OA51564 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA51564 (PTF UA83356):

### Situation Editor

You can use the Situation Editor to create, view, and edit situations (including the formula, distribution, expert advice, action, and until conditions) that can monitor important conditions in your environment. Each situation monitors your environment constantly by testing a formula at time intervals that you set up, for example, every 5 minutes. You can view the overall status of your environment in the Situation Status tree. Type / to select option rows. Move between areas in the Situation Editor by selecting a tab on top.

Some screens contain highlighted push buttons, through which you can access additional Situation Editor features.

### Object Editor

You can use the Object Editor to organize managed systems and situations into name groups which you can reference in distribution lists.

The tree shows the types of object groups that are available and groups that have been created.

There are 2 types of groups available to be created.

#### Managed System

Any set of managed systems that are related, such as business function or by geography, can be organized into a managed system group for assigning to situation distributions. The tree lists all available managed system types including All Managed Systems for creating managed system groups that combine multiple managed system types.

#### Situation

For a set of frequently distributed situations, you can create a situation group to save time and ensure consistency in applying your best practices.

**Note:** Situation groups can be added to other situation groups.

### Security Requirements

The new Situation Editor and Object Editor functions that are introduced in this PTF are disabled by default due to possible performance impact of certain situations. The following security resource profiles must be defined for these editors.

- **KOBUI.ADMIN.SITEDITOR**

- **KOBUI.ADMIN.OBJECTEDITOR**
- **O4SRV.\*\***

Use combinations of read, update, or none for the profiles to control the access to the editors.

- To view the editors, the users must have either read or update permission to the corresponding editor profiles (**KOBUI.ADMIN.SITEDITOR** for the Situation Editor and **KOBUI.ADMIN.OBJECTEDITOR** for the Object Editor). Users with none permission to the profiles are not able to access the editors.
- To save updates in the editors, the users must have read or update permission to the **O4SRV.\*\*** profile, as well as either read or update permission to the corresponding editor profiles. Users with none permission to the **O4SRV.\*\*** profile are not able to save updates in the editors.

## OMEGAMON enhanced 3270 user interface PTF UA82170 for APAR OA50563

APAR OA50563 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA50563 (PTF UA82170):

### Memory Display/Zap workspace

You can display or modify the memory within any address space on a system where an OMEGAMON on z/OS agent connecting to the selected HUB TEMS is running. To list memory, select the Memory option from the enhanced 3270UI View pull-down menu (fastpath V.M). The Memory Display/Zap workspace is displayed. This workspace can also be invoked from another workspace in the enhanced 3270UI. To invoke this panel in context, the ASID and ADDRESS variables must be set before invoking the Memory Display/Zap workspace via the ACTION statement in the callers' workspace. Both the ASID and Address fields must be integer values when the Memory Display/Zap workspace is invoked.

### The new first workspace after log in

The new first workspace is a tabbed dialog from which you can choose the tab that you want to see first. You can choose the first tab by using **Edit > Preferences**, or invoking **Help > What's New**. By default, the first tab shows workspace KOBSEVTS.

The first tab shows information about active situations that are running in the connected Hub TEMS. If the OMEGAMON Dashboard edition is installed in the e3270UI address space, the situations are displayed as a status tree instead of a simple summary. The status tree shows historical information of each situation so that you can assess the overall health situation from one screen.

Other tabs display information of different OMEGAMON agents. Place your cursor on the tab and press Enter to enter the tab. If you have the 3270 emulator configured for mouse operations, double-click the tab that you want to enter.

## OMEGAMON enhanced 3270 user interface PTF UA80299 for APAR OA49686

APAR OA49686 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA49686 (PTF UA80299):

### Product support

New support has been added for the following products:

- OMEGAMON for JVM on z/OS
- OMEGAMON for Messaging on z/OS: IBM Integration Bus Monitoring agent

### KOBSTART alternate workspace

The OMEGAMON Products workspace (KOBSEVTS, which displays events) is a useful alternative to the existing Enterprise Summary workspace (KOBSTART) as the first workspace when you log on. You can select this workspace as your initial workspace with the following steps:

1. Click on **E** (Edit)
2. Click on **P** (Preferences)
3. Click on the **Session/Logon** tab

4. Select one of the following options:
  - Change "First workspace to be displayed" to KOBSEVTS
  - Click on "Help" and follow instructions to make the currently viewed tab of the workspace be your new first workspace

#### **User filter support**

User filter support has been expanded to include all subpanels in a workspace.

#### **Performance improvements**

APAR OA49686 (PTF UA80299) introduces the following performance improvements for environments where the ITM installation contains many distributive systems:

- Much less data is requested and processed when performing a registry refresh
- CPU load reduction in Hub TEMS and TOM
- TCP traffic volume reduction between the TOM, DRA address spaces, and Hub TEMS
- Performance data availability improvement in TOM

### **OMEGAMON enhanced 3270 user interface PTF UA76751 for APAR OA46867**

APAR OA46867 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA46867 (PTF UA76751):

#### **Concurrent user sessions**

Up to 100 concurrent enhanced 3270 user interface sessions are supported.

#### **Support for non-APL emulators**

There are new options for running emulators with limited or no APL characters, and a Screen Test for determining which APL characters are supported.

#### **BACK and HOME buttons**

For enhanced navigation, the BACK and HOME buttons are available on every workspace.

#### **On-screen indicator for off-screen threshold condition**

For enhanced problem determination, the highest severity off-screen threshold condition is indicated by the color of the left or right arrow.

#### **Ability to cancel enhanced 3270 user interface users**

If correct SAF authorizations are in place, users can be selectively cancelled from the list shown in Tools -> Active 3270 Users.

#### **Product table and attribute displays**

Creating new workspaces is facilitated by Object Definition Interchange (ODI) support, which lists products, tables and column definitions that can be used in QUERY statements.

#### **Filter indications**

Filters icons are shown on-screen in the column heading as Green (Defined) or Yellow (Active), to indicate if all data rows in the subpanel are displayed. The icons are also zoom-selectable for editing.

### **OMEGAMON enhanced 3270 user interface V7.3.0**

#### **Enhanced 3270UI near-term history display**

The Enhanced 3270UI now supports the display of near-term history collected by OMEGAMON® XE and IBM® Tivoli® Monitoring agents. Near-term history display provides the ability to investigate problems in the recent past. Security authorization checks have been extended to include access and updates to near-term history collection.

If your security implementation is configured to deny access to undefined SAF resources by default, you must update your configuration to secure near-term history (NTH) configuration actions. To secure history

updates, the O4SRV.\*\* resource must be added to either the global security class (RTE\_SECURITY\_CLASS) or the query class (K0B\_SAF\_QUERY\_CLASS\_NAME) if it is used. To secure access to the near-term history workspaces, the K0BUI.ADMIN.DEFINEHISTORY.<hub name> resource must be added to the security class used to control user interface interactions such as navigation.

To enable collection of NTH data, you must allocate data sets to store the collected data, configure maintenance of those data sets, and configure what data is collected.

### **Dynamic hub switching**

You can now dynamically specify which hub you want to view data from. Previously, you had to modify the user profile to change hubs. Now you can switch hubs from the interface without modifying the profile.

### **Multi-hub support**

You can use the multi-hub support feature to select a secondary hub monitoring server connection.

### **Continuous operation**

The address space no longer needs to be recycled when an agent is upgraded.

### **Support for IPv6**

Support for IPv6 has been added to the existing IP capability, enabling configurations that employ IPv4 only, IPv6 only, or mixed IPv4 and IPv6.

### **Enhanced 3270UI embedded data**

The Enhanced 3270UI embedded-data feature can be used to bring relevant data from other products into the workspace of the hosting product. The embedded-data feature imports data from other products in a seamless manner that can enable the user to navigate in context directly to other product workspaces.

### **New user preference options**

- You can choose whether your tab key can be used to move between action bar options and also whether it can be used to move to and between push buttons.
- You can configure various history configuration settings.

### **Display of alias commands**

You can use the **View** menu to see a list of Alias commands that can be used on the action and command lines.

## **OMEGAMON enhanced 3270 user interface V7.0.0 Interim Feature 1 (APAR OA42127)**

APAR OA42127 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) for OMNIMON Base V7.0.0:

- Security authorization checks have been extended and enhanced. For more information, see [“Security” on page 901](#).
- User preferences can be customized by using the User Profile Member workspace. For more information, see [“Customizing a user profile” on page 937](#).
- You can use the new K0BSITEC workspace to display IBM® Tivoli® Monitoring Situations status information in the enhanced 3270UI. The status information is similar to the information provided by the Tivoli® Enterprise Portal Situation Event Console, that is, situation status for current situations events and situation event history. For more information, see [“Customizing K0BSITEC as the initial workspace” on page 939](#).
- Workspaces are introduced to support viewing and browsing the Runtime environment (RTE). For more information, see [“Runtime environment viewing” on page 973](#).
- Workspace source can be viewed and browsed. For more information, see [“Viewing a workspace source” on page 975](#)
- Cloning and customization
  - The capability to view and copy product provided workspaces, thresholds, and profiles is introduced. You modify workspaces, thresholds, and profiles by first cloning (making a copy) and then editing the copy by using a file editor such as the ISPF editor. For more information, see [“Workspace viewing and](#)

[cloning](#)” on page 943, [“Preparing for threshold member cloning”](#) on page 963, and [“Profile viewing and cloning”](#) on page 977.

- Guidance on the customization of product provided workspaces is included. For more information, see [“Customization of product provided workspaces”](#) on page 947.
- The action bar has updated menu and context-sensitive capabilities. For more information, see [“Menus”](#) on page 908.
- The User Interface drawer is introduced. For more information, see [“Drawer”](#) on page 907.
- Hub connectivity administration is used to validate that a requested hub Tivoli® Enterprise Monitoring Server is reachable through a TCP/IP connection during the operation of the enhanced 3270UI. For more information, see [“Hub connectivity administration”](#) on page 981.

## OMEGAMON® Enhanced 3270 user interface component summary

The following OMEGAMON® components facilitate the display of data in the OMEGAMON® Enhanced 3270 user interface (enhanced 3270UI).

### OMEGAMON® Agents

The OMEGAMON® V5.1.1 and V5.3.0 agents (for example, OMEGAMON® for CICS® or OMEGAMON® for z/OS®, among others) deliver capability that builds on the enhanced 3270UI infrastructure to provide OMEGAMON® capability on the enhanced 3270UI.

### Hub Tivoli Enterprise Monitoring Server

Monitoring servers are part of the Tivoli® Management Services infrastructure that is shared by OMEGAMON® agents. The enhanced 3270UI requires Tivoli® Management Services V6.3.2 or higher.

The *hub monitoring server* is the monitoring server that acts as the focal point for data collection and distribution; it communicates with monitoring agents, with the enhanced 3270UI, and with other Tivoli® Management Services components.

Monitoring servers that communicate only with the monitoring agents that report to them and with the hub monitoring server are referred to as *remote monitoring servers*. The hub monitoring server receives data requests from the enhanced 3270UI through the data retrieval agent (KOBAGENT) and drives OMEGAMON® agents for data collection and retrieval. The hub monitoring must be seeded with OMEGAMON® V5.3.0 agent data.

### OMEGAMON® Enhanced 3270 user interface address space

The enhanced 3270UI address space provides data retrieval and user interface 3270 interaction functions. One or more enhanced 3270UI can be deployed in a specific z/OS® Sysplex.

### OMEGAMON® Enhanced 3270 user interface data retrieval agent (KOBAGENT)

This component runs in any z/OS® monitoring server or Tivoli® OMEGAMON® Agent address space. The enhanced 3270UI data retrieval agent receives data requests from the enhanced 3270UI and connects to the hub monitoring server to drive data collection by OMEGAMON® V5.3.0 monitoring agents.

There must be at least one enhanced 3270UI data retrieval agent that is deployed and running in the Sysplex where components of a specific configuration (hub or remote monitoring servers and agents) are running to enable enhanced 3270UI data retrieval and display. The enhanced 3270UI must also run in the same Sysplex as the OMEGAMON® Enhanced 3270 user interface data retrieval agent.

The components that are mentioned earlier must be installed, configured, started, and running to enable successful rendering of OMEGAMON® agent data on the enhanced 3270UI. The OMEGAMON® agent configuration step that adds support for the V5.3.0 monitoring agent to the hub monitoring server must be performed to enable successful rendering of OMEGAMON® agent data on the enhanced 3270UI.

### Communications and data retrieval

The enhanced 3270UI uses WLM Services to discover Data Retrieval Agents that are running in its Sysplex. The interface uses TCP/IP services to communicate with Data Retrieval Agents.

The Data Retrieval Agent uses TCP/IP services to communicate with the hub monitoring server. The Data Retrieval Agent uses WLM Services to register or publish their existence within the Sysplex.

The OMEGAMON® monitoring agents use TCP/IP or SNA services to communicate with the monitoring servers. The monitoring agents register with the hub monitoring server as part of the startup process.

The enhanced 3270UI uses VTAM services when you log on and communicate with the interface. You log on to the enhanced 3270UI through a VTAM APPLID that is opened during startup of the interface.

The following figure shows the OMEGAMON® configuration that includes deployment of these enhanced 3270 interface components:

- OMEGAMON® Enhanced 3270 user interface address space
- OMEGAMON® Enhanced 3270 user interface Data Retrieval Agent (KOBAGENT)

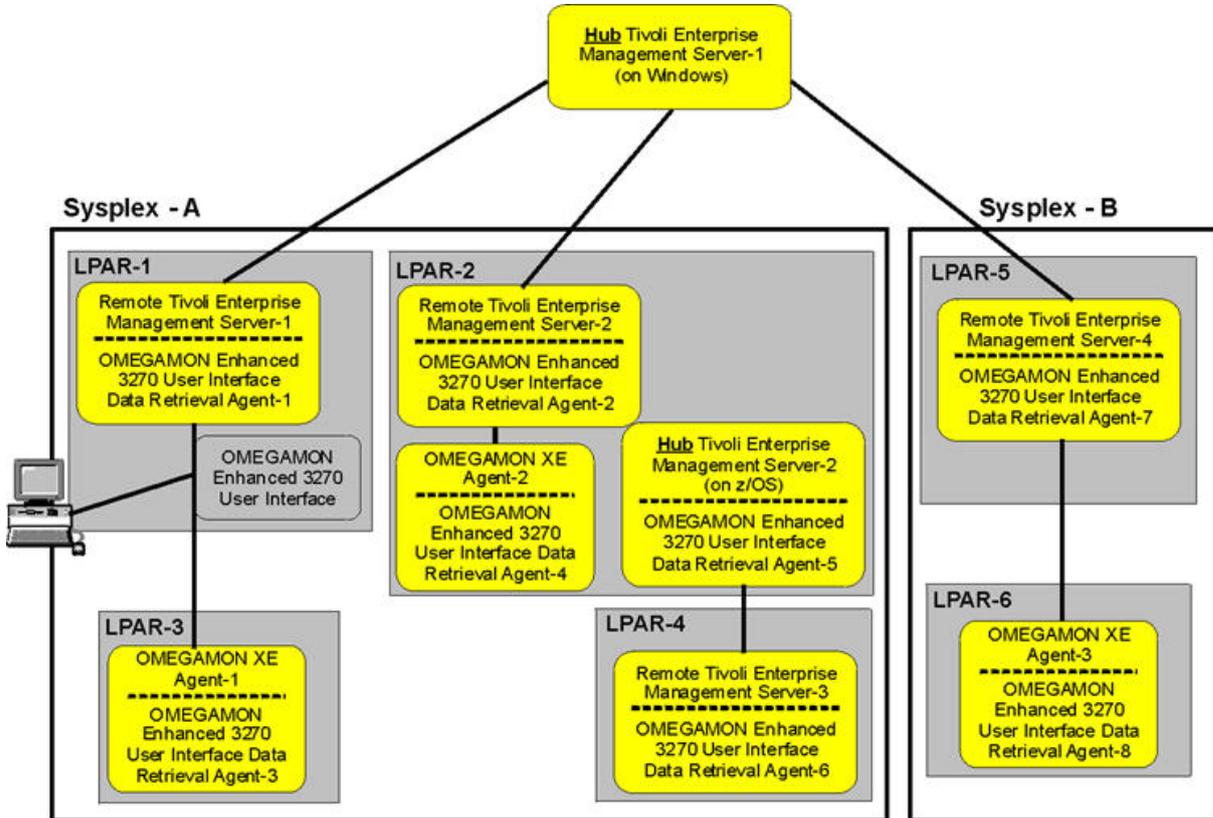


Figure 101: OMEGAMON configuration that includes deployment of the enhanced 3270 interface components

### Minimal configuration

The following minimal configuration must be addressed to enable the enhanced 3270UI to select and connect to a hub monitoring server:

#### OMEGAMON® Enhanced 3270 user interface logon profile

You must create one or more custom logon profiles. These profiles specify the settings for the hub monitoring server from which data is collected. The `RKOBPROF DD` statement in the enhanced 3270UI started task JCL procedure specifies the data set that contains the site and user logon profile settings. The customized site or user profiles are stored as members of the `rte.UK0BDATF` data set. When you log on, the enhanced 3270UI looks for a profile member named `user_id` (the ID of the logged on user) or `CUASITE` (a site-customized profile) to establish profile settings for the session.

You can establish a site or `user_id` named logon profile member by copying (and renaming) the `KOBCUA` product provided profile member from the target `thilev.TK0BDATF` library or the runtime `rte.TK0BDATF` data set to the runtime `rte.UK0BDATF` data set.

From Tivoli® Management Services Version 6.3.2 (APAR OA42127), you can use the **User Profile Member** workspace to customize user profiles. For more information about customizing a user profile, see [“Customizing a user profile” on page 937](#).

For an alternative method of creating and customizing a logon profile, see [“Profile viewing and cloning” on page 977](#).

#### Hub monitoring server settings

##### Tivoli® Management Services V6.3.2 (APAR OA42127) or later.

The settings for the hub monitoring server settings are specified in the logon profile member. By default, the following setting statements are provided:

```
HUBNAME=HUBNAME
HUBIPADDRESS=: :ffff:HUBADDRESS
HUBPORTNUMBER=HUBPORTNUMBER
```

Edit the profile member copy to specify the wanted hub settings; locate and update the statements.

For example:

```
HUBNAME=HUB1:CMS
HUBIPADDRESS=: :ffff:9.44.44.22
HUBPORTNUMBER=55555
```

### **Tivoli® Management Services V6.3 or earlier (pre-APAR OA42127).**

The settings for the hub monitoring server settings are specified in the logon profile member. By default, the settings are provided as commented statements:

```
/* HUBNAME=HUBNAME
/* HUBIPADDRESS=: :ffff:HUBADDRESS
/* HUBPORTNUMBER=HUBPORTNUMBER
```

Edit the profile member copy to specify the wanted hub settings; locate, uncomment, and update the statements; for example, remove the leading `/*` and move the setting statements to begin in column one.

For example:

```
HUBNAME=HUB1:CMS
HUBIPADDRESS=: :ffff:9.44.44.22
HUBPORTNUMBER=55555
```

### **HUBNAME**

The configured name of the hub monitoring server. The monitoring server might be configured to run on the z/OS or distributed system; for example, Linux. Often a hub monitoring server is configured to run on distributed systems that employs a mixed-case or all lowercase naming convention. The value that is specified in your profile setting statements *must* match the case of the configured value.

### **HUBIPADDRESS**

The TCP/IP address of the host system where the hub monitoring server runs. The setting *must* be an TCP/IP address as shown in the preceding example; do not specify a TCP/IP host name.

### **HUBPORTNUMBER**

The TCP/IP port number of the configured hub monitoring server. The default port number is 1918.

## **Component startup and operation**

The following components comprise the startup and operation environment for the OMEGAMON® Enhanced 3270 user interface and the OMEGAMON® agents:

### **OMEGAMON® Enhanced 3270 user interface address space**

Although startup of the enhanced 3270UI address space is relatively fast, it is ideally the last component in the startup sequence; because the interface requires that all other components in its environment (the OMEGAMON® monitoring agents, the Data Retrieval Agent, and the hub and or remote monitoring servers) be initialized and running before it is able to retrieve data.

### **OMEGAMON® Enhanced 3270 user interface local registry**

The enhanced 3270UI startup process discovers registered Data Retrieval Agents and connects to related hub monitoring servers to establish a local registry of data source information; that is, managed systems names and managed system lists. After startup, by default, the registry is refreshed on a 5-minute interval.

### **OMEGAMON® agent and OMEGAMON® Enhanced 3270 user interface Data Retrieval Agent**

The OMEGAMON® V5.3.0 agent address spaces run both an instance of the product agent and also an instance of an enhanced 3270UI Data Retrieval Agent. The Data Retrieval Agent uses WLM services to publish or register its existence. The product agent registers with the hub monitoring server; these registration processes facilitate enhanced 3270UI discovery of OMEGAMON® agents. Some OMEGAMON®

agents, such as OMEGAMON® for z/OS®, run under a remote z/OS® monitoring server; the enhanced 3270UI Data Retrieval Agent also runs under remote z/OS® monitoring servers.

### OMEGAMON® agent startup process

There might be cases where an OMEGAMON® agent startup process requires up to 10 minutes to complete startup and registration. As a result, the enhanced 3270UI cannot retrieve data for that agent during this period.

### OMEGAMON® agent recycle

There might be cases where an OMEGAMON® agent address space is terminated (for example, LPAR shutdown, goes offline) and, in some cases, the agent is performing the role of a *proxy agent*. As a result, the enhanced 3270UI cannot retrieve data for that agent until the offline agent condition is resolved; for example, in a multi-LPAR configuration another agent assumes the *proxy-agent* role.

### Hub Tivoli® Enterprise Monitoring Server

To enable the enhanced 3270UI data retrieval, the hub Tivoli® Enterprise Monitoring Server must be:

- Running Tivoli® Management Services V6.3.2 or higher
- Seeded with IBM OMEGAMON® for Db2 Performance Expert on z/OS V5.3.0 or higher agent data
- Started and connectable through TCP/IP; listening on the configured TCP/IP port
- Be connected or online IBM OMEGAMON® for Db2 Performance Expert on z/OS V5.3.0 or higher agents

## Configuration

The enhanced 3270 user interface is controlled and configured by a set of runtime libraries and parameter files. The configuration process defines the address space controls and logical VTAM connections required to run the interface.

The interface can be configured by using PARMGEN or Configuration Manager. For instructions on configuring the interface, see [Configuring products and components on z/OS](#).

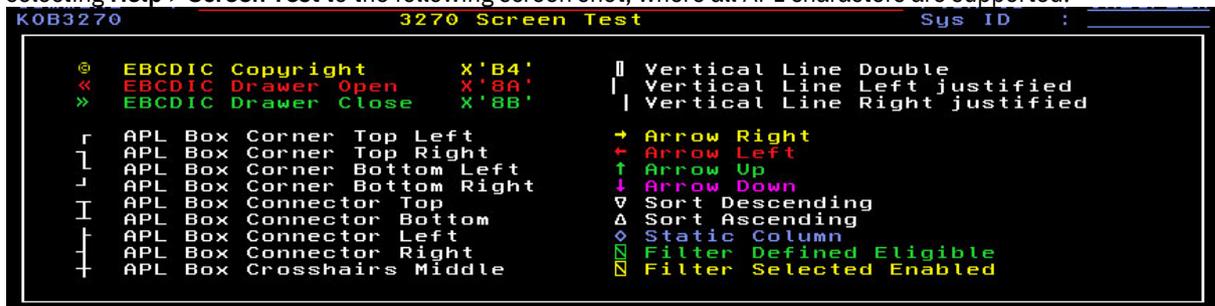
See [“Administration” on page 973](#) for information on customizing interface settings and modifying workspaces.

## Supported emulators and screen sizes

The enhanced 3270 user interface can be used with any 3270 emulator that supports the APL character set. The interface supports screen sizes of 24 x 80, 32 x 80, 43 x 80, 27 x 132, and 62 x 160.

Although a 24 x 80 screen size is supported, given its limited area, use a larger screen size if possible. The minimum suggested screen size is 43 x 80.

Some 3270 emulators do not support the APL characters that the enhanced 3270 user interface requires. An option is available for running the enhanced 3270 user interface with limited APL characters. To view all APL characters that are used by the enhanced 3270 user interface, select the **Help > Screen Test** menu option. To determine if your 3270 emulator supports the APL characters used by the interface, compare the results from selecting **Help > Screen Test** to the following screen shot, where all APL characters are supported:



To change the level of APL graphics support for your emulator, select the **Edit > Preferences** menu option. On the **ISPF** tab, select one of the following options for your emulator:

### FULL

Full APL graphics support.

## LINE

APL graphics support for box lines only.

**Note:** Some (non-IBM) emulators can require LOGMODE settings such as D4A32XX3.

## Logging on and off

The enhanced 3270 user interface supports authorization, when you log on. A valid user ID defined to the security system in force on the system is required. Typically, this ID is a TSO ID.

### Logging on

You log on to the enhanced 3270 user interface by using its Applid (for example, LOGON APPLID(OMEGUI), and then enter your user ID and password at the logon panel. Typically, this ID is the TSO user ID. Your site might also require a group name and password. The interface also supports a password phrase (passphrase) of 9 or more characters, up to the available screen width.

### Before you begin

The enhanced 3270 user interface address space, the OMEGAMON monitoring agents for which you want data, and the hub Tivoli Enterprise Monitoring Server from which you will be requesting data, must be started before you log on to the interface. If security is configured for the interface, you need a user ID. The user ID must be defined to the system authorization facility (SAF) and can be different from the ID used to log on to the Tivoli Enterprise Portal interface.

### About this task

To log on, use the following procedure.

### Procedure

1. Start a new VTAM 3270 session.
2. At the VTAM logon panel, enter the following command, where *applid* is the VTAM Applid that is assigned to the enhanced 3270 user interface address space:

```
LOGON APPLID(applid)
```

The enhanced 3270 user interface logon panel is displayed:



3. Enter your user ID and password (typically, this ID is one of your TSO IDs). Mixed-case IDs are supported. The interface also supports password phrases up to the available width of the screen. Your site can also require a group name and password.
4. Press **Enter**.  
The initial workspace is displayed. By default, you see an overview workspace for all installed products that support the user interface (KOBSTART). However, a different initial workspace might be specified in your site or user profile. If a hub monitoring server is not specified in your profile, the **Hub Connectivity**

**Administration** workspace is displayed. For more information, see [“Logon administration and customization” on page 940](#).

## Logging off

There are several ways to log off from the enhanced 3270 interface. Use any of the methods described.

## Procedure

- From the action line or the command line of any workspace, enter EXIT, LOGOFF, QUIT, or =X.
- From the initial logon workspace, press F3 to display an Exit menu with the choice of exiting or resuming. Enter 1 or X to exit, or 2 or R to resume working with the interface.
- From the File menu, select **Exit**, then press **Enter**.

## Security

The enhanced 3270 user interface (enhanced 3270UI) authenticates user identity by using the system authorization facility (SAF) interface. All authentication or authorization failures are logged. All Take Action requests are logged.

### System Authorization Facility

The existence of the SAF user ID and its validity are always checked. The enhanced 3270UI also runs a number of SAF authorization checks to check whether the user has authority to do the following activities:

- Log on to this instance of the enhanced 3270 user interface
- End User activities
  - View data for a specific attribute group (table) on a specific managed system
  - Transmit a Take Action request to a specific managed system
  - Change auto-update preferences
  - Entry of any command on the command line
  - Create and modify a profile member name with the same name as the user ID of the user
  - Use a specific hub Tivoli® Enterprise Monitoring Server
- Administrative activities
  - List enhanced 3270 user interface users, and optionally end a user's session
  - Save a data set member
  - Start or stop user interface tracing
  - Start or stop internal tracing
  - Modify (Save As) any PDS member that is named with a different user ID to that of the current user
  - Near-term history configuration

User permissions and the amount of security that is imposed are assigned by site administrators. Authorization works as follows:

- If no SAF security class is supplied (value for RTE\_SECURITY\_CLASS is missing or blank), users can log on to the OMEGAMON® enhanced 3270UI, can access data through queries, but cannot issue Take Action commands.
- If a SAF security class is supplied, but the class is not defined and active in SAF, no one can log on to the OMEGAMON® enhanced 3270UI.
- If a SAF security class is supplied, and is defined and active in SAF, but no logon profile is defined, no one can log on to the OMEGAMON® enhanced 3270UI.

- If a user is able to log on, and a different security class than the one used for logon is used for queries or for Take Action commands (but is not activated or resources are not defined in that security class), everyone can view data for any managed system and perform other commands and activities, but all Take Action commands are denied.
- If a security class name is configured, resource profiles must be defined to control log on, data access, and Take Actions, and users must be given access to those profiles.

### Enabling e3270UI PassTicket generation

Requests to either display or zap memory from the e3270UI require a secured sign-on from the enhanced 3270UI to the OMEGAMON on z/OS monitoring agent. The enhanced 3270UI will generate a PassTicket (a one time only password) and send it to the OMEGAMON on z/OS monitoring agent in the data request. In this way the monitoring agent can authenticate the request that comes from the user logged into the enhanced 3270UI.

In order for a PassTicket to be generated, the PTKTDATA security class must be activated. To activate the PTKTDATA class and the SETROPTS RACLIST processing, run the following command.

```
SETROPTS CLASSACT(PTKTDATA) RACLIST(PTKTDATA) GENERIC(PTKTDATA)
```

By using the PassTicket key class the security administrator can associate a RACF secured sign-on secret key with a particular mainframe application that uses RACF for user authentication. All profiles that contain PassTicket information are defined to the PTKTDATA class.

### Configuring security resource profiles

See [Enable security for the OMEGAMON enhanced 3270 user interface](#) for information about how security works and how to configure security resource profiles.

Starting from OMEGAMON enhanced 3270 user interface PTF UA83356 for APAR OA51564, you can use the Situation Editor and Object Editor for situation and group management. However, the new Situation Editor and Object Editor functions that are introduced in this PTF are disabled by default due to possible performance impact of certain situations. The following security resource profiles must be defined for these editors.

- **KOBUI . ADMIN . SITEDITOR**
- **KOBUI . ADMIN . OBJECTEDITOR**
- **04SRV . \*\***

Use combinations of read, update, or none for the profiles to control the access to the editors.

- To view the editors, the users must have either read or update permission to the corresponding editor profiles (**KOBUI . ADMIN . SITEDITOR** for the Situation Editor and **KOBUI . ADMIN . OBJECTEDITOR** for the Object Editor). Users with none permission to the profiles are not able to access the editors.
- To save updates in the editors, the users must have read or update permission to the **04SRV . \*\*** profile, as well as either read or update permission to the corresponding editor profiles. Users with none permission to the **04SRV . \*\*** profile are not able to save updates in the editors.

### Data Facility Storage Management System (DFSMS)

The following activities are separately secured by the Data Facility Storage Management System (DFSMS):

- Display a member list for a data set
- Browse the contents of a data set member
- Save a data set member

### User Experience

When users are not authorized to run an activity, they are prevented from running the activity regardless of the attempted method, for example, whether by using a menu item, command line, or function key.

When users attempt to run an activity that they are not authorized to, a message similar to the following is displayed on their screen:

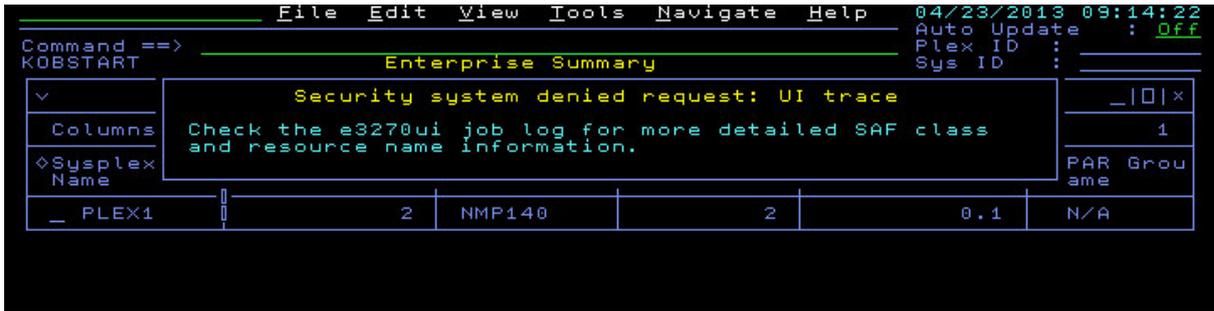


Figure 102: Security system denied request message.

The administrator can check the SYSPRINT log file to see additional details about the request that is denied. For example, for the message shown an entry similar to the following can be found in the SYSPRINT log file:

```
USER2    KOBUICS2I SAF R15=00000008 CLASS($KOBTEST) RESOURCE(KOBUI.ADMIN.TRACE.UI.BASIC )
RC=00000008 RSN=00000000
```

## Getting help

You can view column and menu help, and a general Help Directory in the enhanced 3270 user interface. If help information is available for a specific workspace you are viewing, then that Help information will be displayed in place of the Help Directory when you enter the **HELP** command.

### Column help

You can get help for any workspace column by positioning your cursor in the field with the column name and pressing **F1**. A menu is displayed containing a description of the attribute for the data that is being displayed. A question mark (?) entered in column 1 of a summary type subpanel also displays help for the column. For an example, see [“Help for column headings” on page 915](#).

### Menu help

The action bar **Help** menu displays information about the following enhanced 3270 user interface items:

- Commands
- PFKeys
- Icons
- Navigation
- Auto Update
- Refresh
- Screen Test
- Help Contents
- About OMEGAMON
- What's New

For more information about menus, see [“Menus” on page 908](#).

The enhanced 3270 user interface displays all of the information from the **Help** menu in a tree structure in the [Help and Workspace Directory](#).

## Help and Workspace Directory

You can use this workspace to view all menu help and navigate to OMEGAMON and enhanced 3270 user interface workspaces.

Within a workspace, there are three ways to navigate to the **Help and Workspace Directory (KOBHLDIR)** workspace:

- Issue the **HELP** command from any workspace.
- Issue an **h.h** fast path mnemonic in the upper left portion of your screen.
- Expand the **HELP** menu and select **H Help Contents**.

The **KOBHLDIR** workspace is presented in a tree structure, meaning you can expand branches by selecting the plus sign (+) and collapse branches by selecting the minus sign (-). Within this workspace, you are able to access all topics from the **HELP** menu and navigate to several Overview workspaces within the current enhanced 3270 user interface session.

The following is an example of the **Help and Workspace Directory (KOBHLDIR)** workspace:



Figure 103: Help Tree.

## Workspaces

Workspaces are panels that display collected data and analytic, diagnostic, or explanatory information. Workspaces can contain up to 15 subpanels, displaying various type of data or information. Workspace panels can be overlaid by pop-up panels that present navigation or action options, help for a particular field, or additional information. You navigate among workspaces by zooming to preset destinations, entering an action code in an input field, or by selecting a destination from an action popup panel.

**Note:** You are free to copy, modify, use, and distribute the data and information in all workspaces in the RKANWENU dataset.

### Parts of the workspace

A typical workspace consists of an action bar, a header, up to 15 subpanels, and a footer.

#### Action bar

The action bar is the first line of the workspace. The bar has an input field on the left side, and a set of dropdown menus across the length of the line. You can use the input line to enter navigation and action commands and mnemonics of up to 16 bytes. The date and time of the session is displayed to the right of the action bar.

## Header



```
File Edit View Tools Navigate Help 02/14/2013 12:12:47
Auto Update : Off
Plex ID :
SMF ID :
Command ==>
KMSPLXQ Enterprise Sysplex Overview
```

The workspace header consists of the following parts:

### Command line

The command line beneath the action bar is also used to enter navigation, action commands and mnemonics, but allows as many bytes as can fit on your screen (that is, the number of bytes allowed depends on the size of the screen).

### Panel ID

The identifier of the workspace. The panel ID is the name of the PDS member in which the workspace panel is defined. The panel ID is located in the upper left corner of the workspace below the Command line. You can use the panel ID to navigate to a specific workspace. An alias may be assigned to a panel ID by IBM® or by your site to simplify navigation.

### Workspace title

A descriptive title that identifies the content of the workspace as a whole.

### Auto Update status

An indicator of whether automatic refresh is in effect or not. This field is adjustable by the user. If the auto update feature is enabled, the field displays the refresh interval in effect. If the auto update feature is disabled, the field displays `Off`. If auto update is automatically suspended, the field displays `SUS`.

### Plex ID

This field identifies the plex (IMSplex, Sysplex, CICSplex) for which data is being displayed. The label and purpose of this field may vary from workspace to workspace and from monitoring product to monitoring product. The field may be blank, for example in a multiproduct workspace such as KOBSTART, or if the fields are locked.

### System ID

This field, under the Plex ID, identifies the subsystem, LPAR, or region for which data is being displayed. The label and purpose of this field may vary from workspace to workspace and from monitoring product to monitoring product. The field may be blank, for example in a multiproduct workspace such as KOBSTART, or if the fields are locked.

## Subpanels

There are four types of subpanels: detail, summary, ISPF, and HTML.

In detail panels, multiple data points for a single resource are displayed. The name of the attributes for which data is being displayed appears to the left of the value.

In summary subpanels, data for multiple resources is presented in tabular form, one row for each resource, with columns providing values for the system or application attributes being monitored by the agent, such as Disk Name and Disk Read/Writes Per Second.

If defined thresholds are reached, data is highlighted with colors indicating the status of the item.

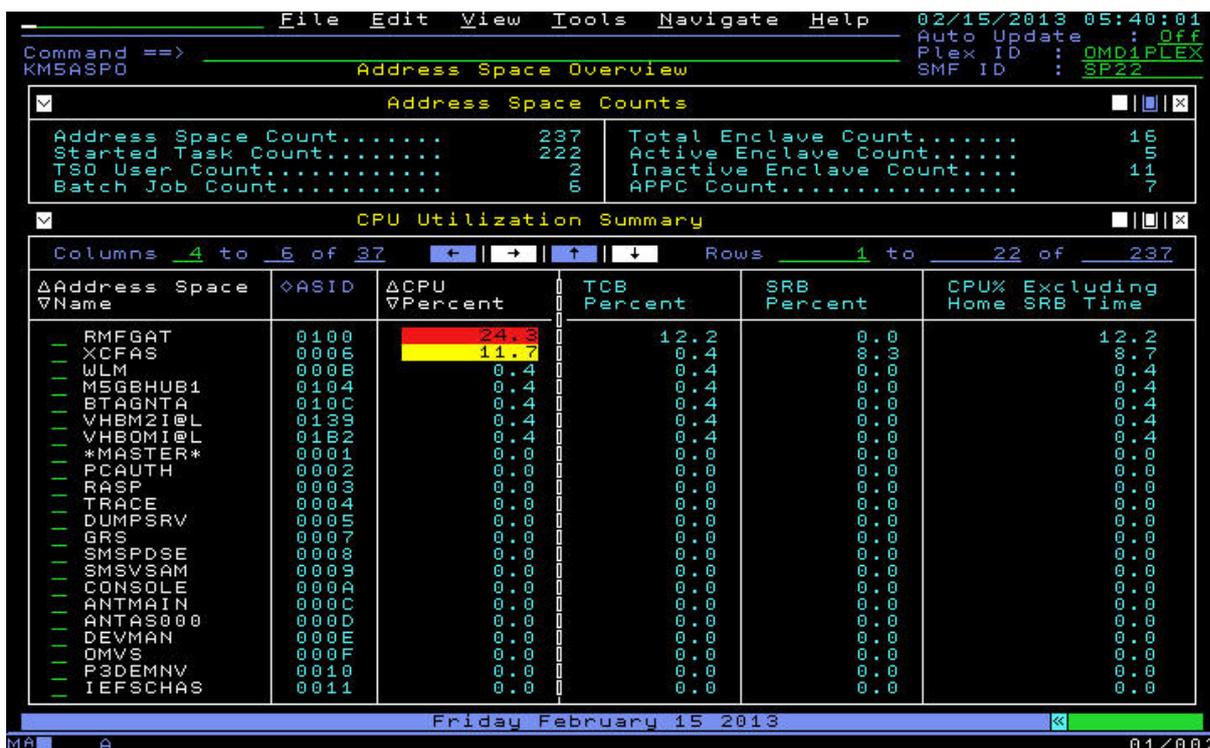


Figure 104: Workspace with detail and summary subpanels

Summary and detail subpanels can contain some or all of the following elements:

**Header**

A descriptive title for the subpanel.

**Collapse and Expand controls**

Selecting the



control collapses the contents of the subpanel so only the header is displayed. If the subpanel is collapsed, selecting the  icon expands the subpanel. See “Collapsing and expanding subpanels” on page 920 for more information.

**Columns \_\_\_ field (summary subpanels only)**



A writeable field that indicates at which column of data the scrollable part of the display begins. Entering a column number in the field and pressing Enter scrolls the display to that column. If no further columns are available, the field is blue.

**Left, right, up, down scrolling arrows (summary subpanels only)**



Scrolls the width or depth of the subpanel. If there is a threshold condition off to the left or right of the data that is presented on the screen, the left or right arrow will reflect the color of the highest severity off-screen threshold.

**Minimize, maximize, close controls**



**Minimize** removes the subpanel from the workspace and puts the subpanel title in the minimize bar at the bottom of the workspace. Placing your cursor under the title in the bar and pressing **Enter** expands the subpanel to its former position.



**Maximize** expands the subpanel to fill the entire screen. The icon changes to indicate that the subpanel is maximized.

The



**Close** control closes the subpanel entirely.

See “[Minimizing and maximizing subpanels](#)” on page 920 and “[Closing subpanels](#)” on page 921 for more information.

### Rows \_\_\_ field (summary subpanels only)



Indicates at which row of data the display begins. If the field is green, entering a row number in the field and pressing **Enter** scrolls the display to that row. If no additional rows are available, the field is blue.

### Subpanel footer

Contains additional information about the data in the subpanel.

ISPF and HTML subpanels consist of an optional header and text that provides additional information about the workspace, such as why the user was brought to this workspace.

### Footer

The workspace footer contains a minimize bar. If subpanels are minimized, their headers appear in the bar. If there is more data available than is displayed on the screen, a MORE indicator is displayed. Up or down arrows beside the text indicate the direction of the additional data that is not currently displayed on the screen. If Trace is enabled, a TRACE indicator is displayed; however, if there is more data to be displayed, the MORE indicator takes precedence over the TRACE indicator.



Figure 105: Minimize bar with ECSA subpanel minimized to bar and MORE indicator with down arrow

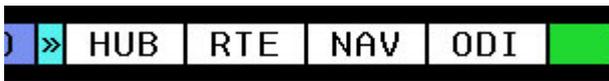
### Drawer

The drawer is an alternative way to go quickly to administrative workspaces, and products from the footer area. The drawer can be opened to reveal navigation icons or closed to hide the icons.

In the closed position, the drawer is signified by the **Open Drawer** icon <<.



To open the drawer move your cursor to the **Open Drawer** icon, and press **Enter**, or double-click the icon, if this method is enabled for your 3270 emulator session. For more information about enabling double-clicking, see “[Associating a mouse click with the Enter key](#)” on page 1060.



When the drawer is open, a number of icons are available. To go to the workspace or action that is associated with a specific icon, move your cursor to the icon and press **Enter**, or double-click the icon. The following icons are available:

#### HUB

Use this icon to go to the **Hub Connectivity Administration** workspace.

#### RTE

Use this icon to go to the **Runtime Environment** workspace.

#### NAV

This icon opens a lateral navigation area in the footer area. In the lateral navigation area, push buttons represent products or workspaces that you can navigate to, for example, these push buttons can be used to navigate to installed products:

To go to a specific product, move your cursor to the icon and press **Enter**, or double-click the icon.



#### Tip:

- To open the lateral navigation area, press the **PF9** key.
- When the lateral navigation area opens, the drawer closes.

#### ODI

Use this icon to display the list of products that are installed in the Enhanced 3270 User Interface. You can display the products, tables and column definitions that are defined in the Object Definition Interchange. When creating new workspaces, for example, this view shows you the actual table and column names to use in a QUERY statement.

When the drawer is open, the **Close Drawer** icon >> is available. To close the drawer, move your cursor to the **Close Drawer** icon >>, and press **Enter**, or double click the icon, if this method is enabled for your 3270 emulator session. For more information about enabling double-clicking, see [“Associating a mouse click with the Enter key” on page 1060](#).

## Menus

The enhanced 3270 user interface contains a menu bar at the top of the screen. Any item in the menu bar can be selected by pressing the Enter key while the cursor is on the item. A pull-down menu will then appear showing additional menu items.

You can access the menus in three ways:

1. Place your cursor on the menu item and press **Enter**.
2. Select the menu item with your mouse if this method is enabled for your 3270 emulator session (usually a double click or a single click from a mouse button). For more information about enabling mouse selection, see [“Associating a mouse click with the Enter key” on page 1060](#).
3. You can use fast path commands to select a menu item by entering an abbreviated command on the action line or command line. The letters that you enter in the abbreviated fast path command are listed under each menu. For example, you can enter the fast path command **v . s** as an alternative to selecting the menu option **View > S Workspace Source**. Similarly, you can enter the fast path command **e . p** as an alternative to selecting the menu option **Edit > P Preferences**.

The following menus are available:

#### File

The options that are enabled are context-sensitive. Some options might not be available either because they are not available from the current workspace or because they are not available in this version.

#### N New

This option is not available in this version.

#### **O Open**

Opens the **Runtime Environment (Workspaces)** workspace, which provides directory lists for the user workspace data set (UKANWENU DD) and the runtime environment workspace data set (RKANWENU DD). You can use this workspace for browsing and locating workspaces.

#### **S Save**

This option is not available in this version.

#### **A Save As**

Saves a copy of the current workspace. This option is available when viewing a workspace PDS member or an in-memory PDS member.

#### **P Print Screen**

Writes a copy of the current screen to SYSOUT1.

#### **X Exit/Logoff**

Exits the current interface session.

### **Edit**

The **Edit** menu offers the following selections:

#### **S Situations**

Invokes the **Situations Editor**, which you use to create *situations* that monitor important conditions in your enterprise.

#### **O Objects**

Invokes the **Object Group Editor**, which you use to organize managed systems and situations into groups that you can reference in distribution lists.

#### **P Preferences**

Displays user profile information. For more information, see [“Customizing a user profile” on page 937](#).

#### **W First Workspace**

Invokes the **Customize your First Workspace Display**, where you specify which system or subsystems to include on the status tree and select which views to include for each product tab.

### **View**

The **View** menu offers the following selections:

#### **F Filters**

Displays a list of filterable items for the current workspace, if any are defined.

#### **T Thresholds**

Displays the **Runtime Configuration** workspace for viewing Threshold definition members. The workspace displays information for the RTE data sets that contain the threshold definition members.

**Tip:** Product-provided threshold definition members are named IBMSITE, CUASITE, or KppTHRESH, where *pp* is the two-digit product code identifier; for example, M5 for the OMEGAMON® for z/OS® product.

#### **A Alias Commands**

Displays a list of alias commands that you can type on the action line or command line to go directly to a workspace view.

#### **S Workspace Source (On Disk)**

Displays the contents of the RKANWENU PDS member used to create the current on-screen workspace.

#### **W Workspace Source (In-memory)**

Displays the in-memory, resolved (parsed) version of the RKANWENU PDS member for the current on-screen workspace.

### **M Memory**

Invokes the **Memory Display/Zap** workspace, which is part of the OMEGAMON for z/OS product. Use this workspace to browse memory in target subsystems, such as CICS, IMS, and Db2.

### **H History Configuration**

Use this option to configure historical data collection for an application.

### **R History Refresh**

Use this option to refresh the historical data view. This option is available only when viewing history data.

### **I History Timespan**

Use this option to select the time period to view for historical data.

### **Q Last Query Performance**

Displays time measurements for the last workspace ENTER key cycle. You can also use the **SHOWQUERY** command to display this information.

### **P Session Performance**

Displays SQL performance metrics for the entire enhanced 3270 user interface session. You can also use the **PERF** command to display this information.

## **Tools**

The **Tools** menu offers the following options:

### **I Trace (User Interface)**

Engages trace for the current session. You select the process that you want to enable trace on from a pop-up menu.

**Important:** Do not use this option except as directed by IBM® Software Support.

### **A Trace (Address Space)**

Engages trace for the entire address space. You select the component that you want to enable trace on from a pop-up menu.

**Warning:** When you engage trace, the volume of messages that are written to the output log files increases (typically JES output). If trace is engaged for an extended period, the output can exceed site limits and cause an enhanced 3270 user interface address space termination.

**Important:** Do not use this option except as directed by IBM® Software Support.

### **R Registry Refresh**

Refreshes the registry that lists all managed system names, managed system lists, and data retrieval agents.

### **T Threshold Refresh**

Refreshes the threshold definitions from disk.

### **U Active 3270 Users**

Displays a list of active users and details about their sessions.

### **H Current Hub Information**

Displays information about your hub connection.

#### **P Products Installed in Hub**

Displays the products that are installed on the hub.

#### **S Switch Between Hubs**

Switches the hub to use for queries, if secondary hub support is in effect.

#### **D Discard the Secondary Hub**

Removes the secondary hub assignment for this session, with the option of updating the user's profile, if secondary hub support is in effect.

#### **E Runtime Environment**

Displays information about the Runtime Environment (RTE).

#### **G Global Timeout Control**

Displays the workspace query timeout value.

#### **V Internal Variables**

Displays a list of internal variables.

#### **O ODI (Object Definitions)**

Displays the list of products that are installed in the enhanced 3270 user interface. You can display the products, tables and column definitions that are defined in the Object Definition Interchange. When creating new workspaces, for example, this view shows you the actual table and column names to use in a QUERY statement.

#### **F SDA (Self-Describing Agents)**

Displays any self-describing agent (SDA) status information.

### **Navigate**

Use the **Navigate** menu to navigate to different products. Products that are available are shown in the color white. Products that are not available are shown in the color blue. Products that are installed locally in the interface but are not available in the connected hub monitoring server are shown in the color yellow.

#### **Z z/OS**

z/OS® summary.

#### **C CICS**

CICS® summary.

#### **G CICS/TG**

CICS® Transaction Gateway summary.

#### **I IMS**

IMS™ summary.

#### **D DB2**

Db2® summary.

#### **N Networks**

Network health summary.

#### **M MQ**

MQ summary.

#### **B Integration Bus**

Integration Bus summary.

#### **S Storage**

Storage summary.

## **J JVM**

JVM summary.

## **H Home**

First workspace.

## **E Events Console**

Enterprise Status Tree.

## **Help**

The **Help** menu displays help for the enhanced 3270 user interface. The following topics are covered:

### **C Commands**

Help for commands and the command line.

### **P PFKeys**

Help for the Program Function (PF) keys.

### **I Icons**

Help for the enhanced 3270 user interface icons.

### **N Navigation**

Help for navigating by using commands, PF keys, icons, and pull-down menu options.

### **U Auto Update**

Help for the OMEGAMON® Auto Update feature.

### **R Refresh**

Help for different types of refreshes: History, Registry and Thresholds.

### **S Screen Test**

Helps determine if the 3270 emulator in use can display the APF characters used by the interface.

### **H Help Contents**

A tree displaying the help topics and available workspaces for the current enhanced 3270 user interface session.

### **A About OMEGAMON**

A pop-up window that lists the following information for the current enhanced 3270 user interface session:

- enhanced 3270 user interface version and level
- User ID
- VTAM® applid
- Jobname
- LPAR ID
- Operating System
- Sysplex
- TCP/IP host and address
- Dashboard Edition (enabled or disabled)
- OMEGAMON monitoring product and component versions

### **W Whats New**

Navigates to the **Help and Workspace Directory** and expands the **New Features** branch, which displays recent updates to the enhanced 3270 user interface.

## Registry Refresh

The registry refresh process is used to obtain current component information for display in the Enhanced 3270 User Interface (enhanced 3270UI). The information gathered is about Hub Tivoli Enterprise Monitoring Servers, Data Retrieval Agents, Managed System Lists, and Managed System Names.

The enhanced 3270UI uses information (names, IP addresses, member lists, etc.) about hub monitoring servers, Data Retrieval Agents, Managed System Lists, and Managed System Names to satisfy queries issued from the enhanced 3270UI workspaces. This information changes over time as hub monitoring server, remote monitoring server, and managed systems are started, stopped, and recycled. The enhanced 3270UI must have up to date information about each of these components to successfully retrieve complete information for display in the enhanced 3270UI.

The process used by the enhanced 3270UI to obtain current information about these components is called *Registry Refresh*. The *Registry* is the cache of information (in each Tivoli Omegamon Manager address space) about each of these components (hub monitoring servers, Data Retrieval Agents, Managed System Lists, and Managed System Names) that is *Refreshed* periodically to maintain currency with component changes. Typically, this *Registry Refresh* occurs within a Tivoli Omegamon Manager address space every five minutes, and this refresh obtains current information about each of the components listed in the previous sentence. This refreshed information is obtained by performing queries to several monitoring server *tables*, namely the O4SRV.INODESTS and O4SRV.TNODELST tables.

If component changes occur between Registry Refreshes (an OMEGAMON agent is started or stopped, or a CICS region (a *managed system*) is started, for example), the Registry is *out of date* until the next Registry Refresh occurs, which means an enhanced 3270UI workspace that attempts to gather data from that OMEGAMON agent or about that CICS region will not result in complete data being returned to the enhanced 3270UI. If you view a workspace and there appears to be missing data rows for any part of the workspace, you can manually force a Registry Refresh.

There are three ways to force a Registry Refresh:

1. On the enhanced 3270UI command line, type: `r refresh`
2. Select **Tools > Registry Refresh** from the menu bar.
3. Use the MVS modify command from the system console as follows: `/F eif,REGREFRESH`, where *eif* is the started task for the enhanced 3270UI address space.

## Status indicators

Status lights are highlight colors that indicate the status of monitored system components. The status is determined by a set of thresholds applied against the component.

By default, the colors and the statuses they represent are as follows:

### GREEN

OKGOOD

### YELLOW

WARNING

### RED

CRITICAL

### BLUE

IDLE

### TURQUOISE

HIGHLIGHT

### BLUE

UNKNOWN

**Note:** By default, status of OK or GOOD is not indicated (that is, there is no highlighting).

Thresholds may also be defined in terms of ranges. The default colors and the ranges they represent are as follows:

**GREEN**

Ranges 1–3

**YELLOW**

Ranges 4–6

**RED**

Ranges 7–9

The values or range represented by each status are set in threshold definitions. You can change the colors assigned to each threshold in the interface profile for your site or for individual users (see “Customizing status indicators” on page 963). Each monitoring agent provides predefined thresholds with its workspaces. You can modify these preset threshold criteria to suit your site (see “Modifying predefined thresholds” on page 963). In subsequent releases, you will be able to set your own thresholds.

**Example**

In the following example, the Performance Index values are all in the Warning range:



**Workspace colors**

In workspaces, colors identify types of text and fields.

The following list defines the default colors for various elements of a workspace:

**WHITE**

Boxlines, items available for selection or zooming

**YELLOW**

Main header, subpanel header, subpanel footer

**TURQUOISE**

Column header, body text

**GREEN**

Input, command line

**BLUE**

Action bar, panel ID

These colors are controlled by the interface profile in effect for the user (the KOBQUA, CUASITE, or user profile). You can modify any of these colors.

## Help for column headings

Help is provided for column headings in workspaces.

Within a workspace, you can place your cursor on a column heading or anywhere within the column, and press **PF1** to view help about the column.

The following is an example for the **Enterprise Summary KOBSTART** workspace:

1. Place your cursor on the **LPAR Group Capacity Limit** column of the **All Active Sysplexes** panel.
2. Press **PF1**.

The help for **LPAR Group Capacity Limit** is displayed:



Figure 106: Column heading help.

A question mark (?) entered in column 1 of a summary type subpanel also displays help for the column.

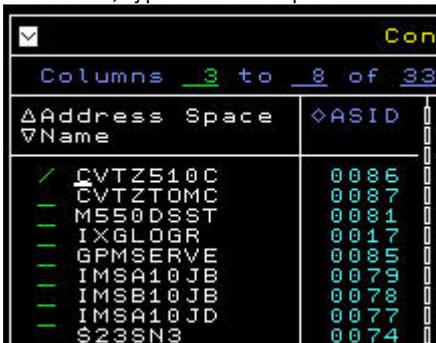
## Screen operations

Within a workspace, you can scroll up, down, left, and right in subpanels using PFKeys or commands, or by entering column or row numbers in input fields. In summary subpanels, you can also use scrolling icons. You can sort the data in columns and add, modify, and remove filters on eligible columns. You can also reset the context for the data displayed in the workspace.

## Action codes

Action codes are entered in the input area associated with a field.

In summary subpanels, the items in the first column are typically selectable. To view a list of actions applicable to an item, type / on the input field in front of the item and press **Enter**:



The Options Menu is displayed:

```
Options Menu
Select an option and then press ENTER
- 1. ! Take Action on Address Space
   2. C - Cancel Address Space
   3. A Address Space Bottlenecks Summary
   4. B Bottleneck Analysis for Address Space
   5. D Storage Usage by Address Space
   6. M Storage Usage by all Address Spaces
   7. S Address Space CPU Usage Details
   8. T TCB Storage and LSQA for Address Space
   9. W WLM Service Class Resources
```

The Options Menu displays the available actions and the possible navigation alternatives for that item, along with the action code for those options. Type the list number or the letter for the action in the entry field on the menu and press **Enter** to select an option. The actions available and the action codes associated with them vary from workspace to workspace.

If you know the letter associated with a particular action item, you can enter it directly on the workspace. Type the letter in the input field in front of an item and press **Enter**. Entering S selects the default action (or navigational option). You can also select the default action by placing the cursor in the input field and pressing **Enter**.

### Take Action commands

You can issue certain commands from the enhanced 3270 user interface. These commands are referred to as Take Action commands.

Individual commands may be listed in the Options Menu popup. They are prefixed by a hyphen (-):

```
Options Menu
Select an option and then press ENTER
- 1. ! Take Action on Address Space
   2. C - Cancel Address Space
   3. A Address Space Bottlenecks Summary
   4. B Bottleneck Analysis for Address Space
   5. D Storage Usage by Address Space
   6. M Storage Usage by all Address Spaces
   7. S Address Space CPU Usage Details
   8. T TCB Storage and LSQA for Address Space
   9. W WLM Service Class Resources
```

Additional commands may be available in a list of Take Action commands accessed from the Action Command menu. The list of Take Action commands is invoked by entering an exclamation point (!) in the Action Command menu, or by entering it in the input field for the applicable item.

```
KMSACT    Take Actions for Address Space M540DSST
Select an action and then press ENTER
- 1. C Cancel Address Space
   2. D Cancel Address Space with Dump
   3. R Cancel Address Space with Restart
   4. M Cancel Address Space with Restart Dump
   5. K Kill Address Space
   6. E Reset Address Space Service Class
   7. Q Quiesce Address Space
   8. U Resume Address Space Service Class
   9. T Change Time Limit
  10. S Swap In Address Space
  11. N Mark Address Space Nonswappable
  12. W Mark Address Space Swappable
```

## Scrolling

The enhanced 3270 user interface uses two types of scrolling: local and global. The type of scrolling that takes effect depends on the location of the cursor.

If the cursor is set in a subpanel when a scrolling command is executed, scrolling is local; that is, only the subpanel in which the cursor is located is affected. If all the subpanels in the workspace are displayed and the cursor is set outside a subpanel (for example, on the command line), scrolling applies to all the subpanels in the workspace. If there are subpanels that are not displayed (so the MORE indicator appears at the bottom of the screen), vertical scrolling with the cursor set outside the subpanels scrolls down an entire screen to display the remaining subpanels. If a subpanel is maximized, the MORE indicator at the bottom of the screen is suppressed and full screen scrolling is disabled. You can only scroll the contents of the maximized subpanel.

Use any of the following methods to scroll within all subpanels or within a specific subpanel.

- To scroll to the last or first *n*-number of rows or columns (where *n* is the maximum number of rows or columns that can be displayed on the screen), use any of the following methods:
  - Type DOWN *M*(AXIMUM), UP *M*, LEFT *M*, or RIGHT *M* on the COMMAND or action line and then press **Enter**.
  - Type *M* on COMMAND or action line and then press **PF8** (down), **PF7** (up), **PF10** (right), **PF11** (left), or use the corresponding assigned PFKeys.
  - Type TOP or BOTTOM on the COMMAND or action line and then press **Enter** to display the last or first *n*-rows
- To scroll a specified number of rows or columns, use either of the following methods:
  - Type DOWN *nnn*, UP *nnn*, RIGHT *nnn*, or LEFT *nnn* on the COMMAND or action line and then press **Enter**.
  - Type *nnn* on the COMMAND or action line and then press **PF7**, **PF8**, **PF10**, **PF11** (or the corresponding assigned PFKeys) to scroll down, up, right, or left.
- Remember: To scroll within a specific subpanel, set your cursor in the subpanel before you press **Enter** or the appropriate PFKey.

Use the following methods to scroll within a specific subpanel:

- To go to a specific column, overwrite the "from" column number in the subpanel header and press **Enter**.
- To go to a specific row, overwrite the "from" row number in the subpanel header and press **Enter**.
- To scroll to the next *n*-number of rows or columns, use the cursor-sensitive arrow controls in the subpanel header. Arrows highlighted in white are currently usable for the subpanel. Click on an arrow, then press **Enter** to scroll in the selected direction.



If there are subpanels that are not displayed, a MORE indicator appears at the bottom of the screen, next to the minimize bar. Arrows appear beside the MORE indicator to show if there is more data before or after the data displayed, or both **ΔMORE∇**. Placing the cursor on a directional arrow and pressing **Enter** scrolls the screen in that direction.

## Lateral column scrolling

Some columns contain more data than can be displayed in a fixed width. These columns may have lateral (left and right) scrolling enabled.

Columns with lateral scrolling enabled have left and right scrolling arrows in the column heading:

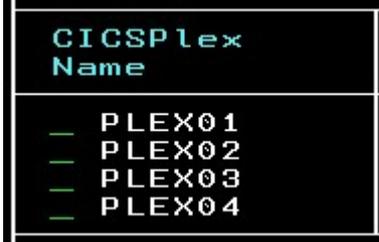


You can scroll by placing the cursor on an arrow and pressing Enter, or by placing the cursor in the data area of the column and pressing the PF10 or PF11 keys.

## Selecting

Selecting items lets you perform actions associated with those items, such as navigating to a workspace that displays detailed information for the selected item, issuing a command that affects a selected resource. By default, selectable items are displayed in white.

In summary subpanels, the items in the first column may be selectable. Selectable items are preceded by an input field ( ):



To select an action associated with the item, place the cursor on the input field using the arrow keys or the mouse and then perform one of the following actions:

- Press **Enter** or type S and press **Enter** to execute the default action associated with the item. Typically, this is navigating to a related workspace.
- Type / and press **Enter** to display a popup menu with a list of actions you can apply to the selected entry. On the popup menu, type the number or code of the action you want to perform and press **Enter**.
- If you already know the action code for the action you want to perform, type it in the input field and press **Enter** to perform a specific action.
- Type ! and press **Enter** to display a popup menu with a list of take action commands you can apply to the selected entry.

**Note:** Items that are selectable are zoomable, but zoomable items are not necessarily selectable. In detail subpanels, for example, items can only be zoomable. See [“Zooming” on page 922](#) for more information.

## Sorting

You can sort data in eligible columns in ascending or descending order using the sort icons.

The column headings of columns that are eligible for sorting display a sort icon. The appearance of the sort icon depends upon the status of the sort.

### Sort icon



### Status

Column is sortable, but sorting is not in effect.

Sorting is in effect and column is sorted in ascending order.

Sorting is in effect and column is sorted in descending order.

To sort using the icons, place the cursor over the heading of column you want to sort and press **Enter**. If sorting is in effect, pressing **Enter** reverses the sort order. If sorting is not in effect, pressing **Enter** sorts the list in descending order. To restore the original sort order, you must **F3** out of the workspace and redisplay it.

Transaction ID	Transaction Status	Program Name	ΔUse ∇Count	ΔRestart ∇Count	ΔStorage ∇Violations
CEGN	Enabled	DFHCEGN	0	0	0
CEHP	Enabled	DFHCHS	0	0	0
CEHS	Enabled	DFHCHS	0	0	0
CESC	Enabled	DFHCESC	0	0	0
CESD	Enabled	DFHCESD	0	0	0
CETRA	Enabled	DFHCETRA	0	0	0

## Filtering

Columns in a summary subpanel may be designated as eligible for filtering. Some of these columns may have predefined filters. You can view a list of all the eligible columns and existing filters. You can add, modify, or remove filters for any column in the list. Only the columns in the first summary panel in a workspace can be filtered. Columns that are eligible for filtering are denoted with a green icon:



Columns that have a filter in effect are denoted with a yellow icon:



You can view the list of filter-eligible columns by pressing **PF4**, entering the **FILTER** command or clicking on the filter icon within the column header. The list of columns is displayed in a popup panel:

Filter(s)	
1.	CICS Region Name..... = CICSR*
2.	CPU Utilization..... < 50
3.	Transaction Rate..... < 20
4.	VTAM Applid..... n/a
5.	VTAM Generic Applid..... n/a
6.	XCFGROUP..... n/a
7.	System ID..... = SP22

To enable, modify, or disable a filter:

1. Enter the number of the filter you want to modify.  
A popup menu is displayed with the details of the filter definition:

Filter Detail	
Column	CICS Region Name
Compare	= (< > > < >= <=)
Value	CICSR* (compare to this)
UCTRAN	Yes (Y or N, uppercase)

Use UCTRAN to specify whether the uppercase translation option is to be set (Yes), or if the value is to be used as it is typed in (No). The UCTRAN option can be used to filter lower or mixed-case values. The default is Yes.

2. Take one of the following actions:
  - To add a filter, type the appropriate Compare operator and overwrite N/A with the desired value, then press **Enter**.
  - To modify a filter, type the appropriate operator and value, then press **Enter**.
  - To remove a filter, erase either the operator or the value in the existing expression, then press **Enter**.

If you press **Enter**, the filter list is redisplayed.

The following comparators are supported:

- = or EQ (equal to)
- <> or NE (not equal to)

- > or GT (greater than)
- < or LT (less than)
- >= or GE (greater than or equal to)
- <= or LE (less than or equal to)

The Value field supports strings or numbers. A trailing asterisk wildcard is supported, but not a leading asterisk. For example, C\* but not \*C. To indicate that a number is a substring rather than an integer, enclose the value in quotation marks. For example, in the preceding screen, specifying the value as “1234” displays all CICS regions whose names begin with the substring “1234”.

If no columns have been designated as eligible for filtering, you will see the following message after you enter the FILTER command or press F4:

```
Filter(s)
This workspace has no filters defined
```

## Minimizing and maximizing subpanels

Minimizing a subpanel from its original size minimizes it to the minimize bar at the bottom of the workspace. Minimizing a subpanel allows additional subpanels, if any, to appear in the workspace. Maximizing a subpanel expands it to fill the entire screen, allowing you to see more data without scrolling.

To minimize a subpanel, set your cursor on the  icon and press **Enter**. The header of the subpanel appears in the minimize bar.



To restore the subpanel, set the cursor on the header in the minimize bar and press **Enter**.

To maximize a subpanel, set the cursor on the  Maximize icon and press **Enter**. The subpanel expands to fill the entire screen. While a subpanel is maximized, MORE and TRACE indicators are suppressed and full screen scrolling is disabled. You can only scroll the contents of the maximized subpanel. To reduce the subpanel to its original size, set the cursor on the Normalize icon  and press **Enter**.

## Collapsing and expanding subpanels

Collapsing a subpanel leaves just the header on display and allows additional subpanels, if any, to be displayed in the workspace. If a subpanel is collapsed, only the subpanel heading is displayed. Expanding the subpanel displays the data rows and columns again.

A down arrow  in the left corner of a subpanel header indicates that the subpanel can be collapsed. Collapsing the subpanel turns the down arrow into a right arrow  (see “Figure: Workspace with collapsed subpanel” on page 921).

To collapse a subpanel, set your cursor on the down arrow  and press **Enter**. To expand a subpanel, set your cursor on the right arrow  and press **Enter**.

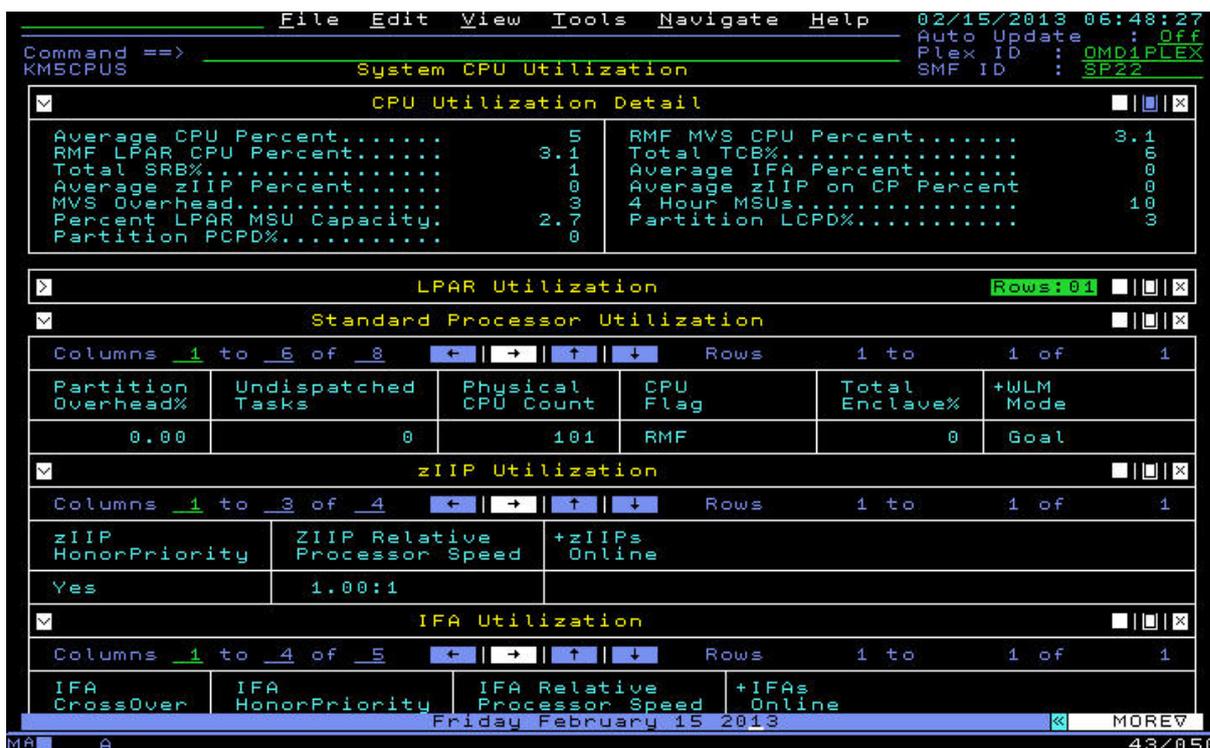


Figure 107: Workspace with collapsed subpanel

If a collapsed subpanel contains no data, the text “No Data” will be displayed in the right corner of the title bar. In some collapsed subpanels that contain no data, the subpanel title might be replaced by explanatory text.

## Closing subpanels

You can close subpanels to increase workspace real estate or focus only on data of concern. The subpanel will reappear the next time the workspace is accessed. If you want to be able to view the subpanel again without exiting the workspace, collapse or minimize the subpanel instead of closing it.

To close a subpanel, set your cursor on the close icon in the subpanel header and press **Enter**.

## Changing context

The **Plex ID** and **SMF ID** fields, which are located in the upper right corner of a workspace, display the currently selected plex and subsystem or region. If these fields are displayed in green, you can overwrite them to switch the context to view data for another plex or subsystem.

For example, in the workspace shown below, you can overwrite the **SYS** value in the **SMF ID** field with the SMF ID for another LPAR, then press **Enter** to see data for that LPAR instead of **SYS**.



If these fields are blue, they cannot be overwritten.

## Auto Update

The Auto Update feature refreshes the data displayed in a workspace at a set interval. By default, the feature is disabled. You can enable the feature by specifying an interval for the refresh.

The **Auto Update** field in the upper right corner of a workspace controls the refresh of data in the workspace:

```
Auto Update : Off
```

If the feature is enabled, the **Auto Update** field displays the selected interval:

```
Auto Update : 005
```

To turn on refresh, overwrite the field with a desired interval, in seconds. To disable the refresh, overwrite the interval with Off.

If the interface runs untouched in auto-update mode, it will eventually suspend auto update. A popup informs users that updates have been suspended, and the field displays SUS. The suspend interval is determined by the auto-update interval, so the larger the auto-update value, the longer the time before updating is suspended. The algorithm is  $n * 6 * 60 * 8$ , which equals 8 hours when auto update runs at a 10 second interval.

The Auto-Update suspension value can be customized in the user's profile, using the AUTOSUSPEND=*nnnn* keyword, where *nnnn* is a number between 0 and 9999. If 0 is specified, the AUTOSUSPEND function is disabled.

## Workspace navigation

In the enhanced 3270 user interface, you can navigate between workspaces by zooming, as well as by selecting options from an action menu. You can display a trace showing where you are and how you got there, you can return to where you started, and reset the tracing.

## Zooming

One or more columns in a summary subpanel, or one or more items in a detail subpanel may be "zoomable". Zooming provides context-sensitive navigation to a predefined destination workspace. Zooming might even take you to a workspace for another OMEGAMON product.

Items that are zoomable are highlighted in white. To zoom, click your cursor anywhere in the item and press **Enter**.

The contents of the destination workspace may be "filtered" based on the key values in the source workspace. For example, a destination workspace may show data for a specific CICSplex, Region, and Transaction ID.

## Where am I?

Sometimes it is useful to know how you arrived at a particular workspace. For example, queries or processes might be driven silently to derive the data that is being displayed. The **SHOWNAV** or **WHEREAMI** commands display the current internal navigation trace table in a scrollable popup window. The table provides a history of the workspace navigation and the variables that are involved in arriving at the current workspace.

To view the navigation trace table, on the **Command** or action line, enter **SHOWNAV** or **WHEREAMI**. Use the **HOME** command to return to the first workspace in a navigation chain. Returning to the first panel resets the navigation trace. Use the **RESETNAV** command to reset the trace table from the current workspace.

## Situation Status Tree

This customizable workspace displays OMEGAMON situations in a tree structure on your OMEGAMON enhanced 3270 User Interface (enhanced 3270UI). Through the Status Tree, you can see a complete picture of your enterprise monitoring status.

OMEGAMON monitoring agents generate events when certain performance thresholds, which are defined in your OMEGAMON Situations, are exceeded. You are able to view these situations through the Situation Status Tree. You can navigate to the Situation Status Tree the following ways:

- Issue the **events** or **alerts** command from any workspace
- Expand the **HELP** menu and select **10. Events Console**
- Issue an **n.e** fast path mnemonic in the action bar in the upper left hand portion of your screen
- Expand the **Enterprise Status** branch in the **Help and Workspace Directory**. Drill down on **KOBSITST**

**Note:** To view and customize a Situation Status Tree, you must have OMEGAMON Dashboard Edition on z/OS V5.3.0 installed, and APARs OA48298 (PTF TBA) and OA47760 (PTF UA7724) applied.

The status tree is an outline in which you can expand and collapse different branches in the tree. You expand and collapse branches to see greater or fewer details about the Situations that make up the status tree. The status tree can be compared to the Tivoli Enterprise Portal (TEP) Navigator.

Branches have a plus sign (+) or minus sign (-) near the left edge whenever that branch contains any children. The children for a branch are visible when a minus sign (-) is displayed.

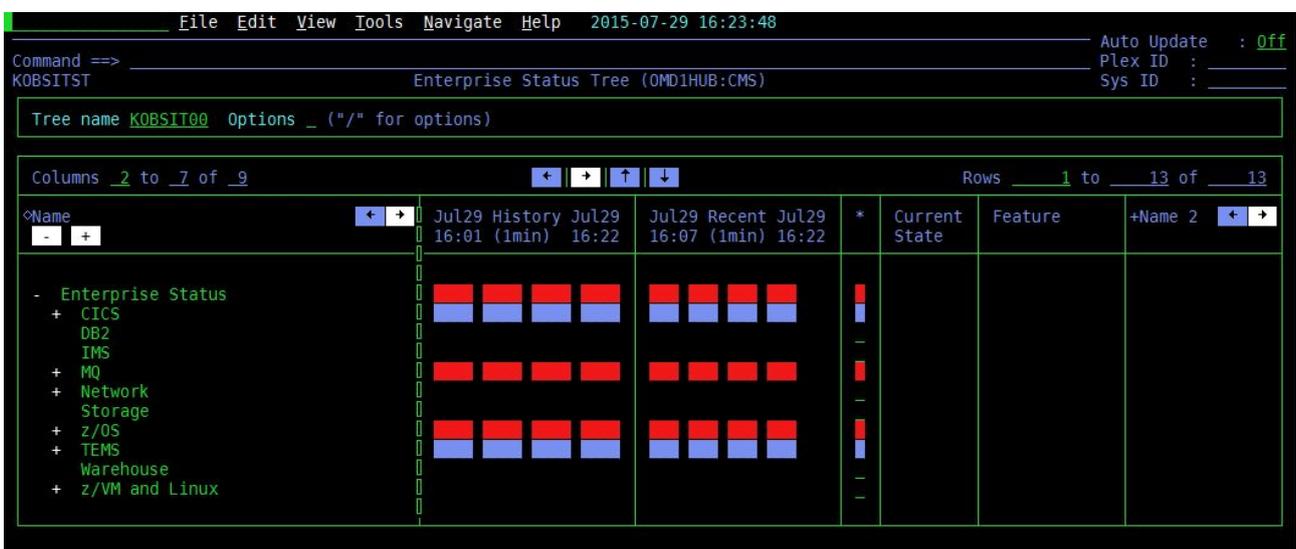


Figure 108: Default Situation Status Tree

Enter a "/" in the **Options** field to display the pop-up menu of Status Tree Options. From this panel you can customize how your status tree is displayed. You can adjust the hierarchy of your branches, choose hour and date display formats, and adjust the width of your history columns.



Figure 109: Status Tree Options

With the Status Tree, you have flexibility similar to the TEP Navigator and TEP Custom Navigator views. You can group together situations based on **Managed System Name** or you can group situations together based on any combination of **Managed System Name** (msn), **Situation Name** (sit), **Display Item** (atom), **Managed System Group** (ms1), and **Affinities** (aff).

For example, to create a part of the Status Tree where only situations that match a certain naming convention are displayed, you could supply a Status Tree filter like this:

```
{ "type": "sit", "filter": { "sit": "My_SITNAMEs_XXX.*" } }
```

The Situations that are displayed in a Status Tree are ones that have become 'true' at some point within the time intervals being monitored. Enhanced 3270UI configuration values can be used to control the time span (minutes, hours or days) of situation data used for the Status Tree displays. When you change any of these configuration values, you must restart the enhanced 3270UI address space for the new values to be implemented.

Using the Status Tree, you are able to see which Situations are currently true, and which Situations have been true over some past time span. Viewing historical data helps you to more fully monitor the status of your systems and applications.

#### Example:

You can configure the Status Tree data collection to cover three days. Then on a Monday morning, for example, the system shows situation history since Friday morning. You can then select a particular status cell of interest, to get details of the situation history behind that status cell. If a status cell is red in a Sunday evening time slot, which might mean a critical problem, you can immediately drill down to the situation details that cover that point in time. The situation details tell you all the OMEGAMON values collected for that situation at that point in time. These details help you diagnose what was occurring in your environment.

The enhanced 3270UI provides a default Enterprise Status Tree that automatically discovers all of the OMEGAMON situations defined on your system; that is, defined to whichever Hub TEMS you are using. The default Enterprise Status Tree displays Situations in a hierarchy that consists of branches, where each branch is a different OMEGAMON performance monitor. For example, one branch is for the CICS® version of OMEGAMON, another is for z/OS®, and so on.

For more information on customizing the Status Tree, expand the **New Features** branch in the **Help and Workspace Directory** (KOBHLDIR) and select **Status Tree** to reach the KOBHLRTT workspace. For more information on reaching this workspace, see [Help and Workspace Directory](#).

**Note:** To view the comprehensive list of instructions for customizing the Status Tree, you must visit the [Help and Workspace Directory](#).

## Situation Editor

The Situation Editor is a group of Workspaces that is used to create, view, and edit situations (including the formula, distribution, expert advice, action, and until conditions) that can monitor important conditions in your environment. Each situation monitors your environment constantly by testing a formula at time intervals that you set up, for example, every 5 minutes.

The following Workspaces are included in the situation editor.

### Create New Situation (KOBSEDCN TREE)

Use the Create New Situation pop-up window (KOBSEDCN) to create a new situation. You supply the situation's name, description, and type.

Situations are one of two types: Standard or Correlated.

### Select Conditions (KOBSEDPD TREE)

The Select Conditions workspace (KOBSEDPD) is where you select the tables and columns or embedded situations that make up your situation's formula. This workspace is displayed when you create a new situation and when you 'add columns' to an existing situation.

### Correlated Situation Selection (KOBSEDCB TREE)

The Correlated Situation Selection workspace (KOBSEDCB) is where you select a 'Situation + Managed System' pair to be included in a correlated situation you are editing. This workspace is displayed when you first create a correlated situation and when you choose 'Add column' while editing a correlated situation.

### Create Copy of a Situation (KOBSEDCC TREE)

Use the Create Copy of a Situation pop-up window (KOBSEDCC) to create a copy of an existing situation. You supply a new situation name and description.

### Formula Tab (KOBSEDTF TREE)

The Formula tab displays a workspace (KOBSEDTF) that contains summary information about a situation like Agent, ID, Name, Description, and other fields. Typical things to do in the Formula tab are to edit the formula, to change the situation name, and to change the situation severity.

#### Name (KOBSEDEA TREE)

Use the Situation Name pop-up window (KOBSEDEA) to enter a name for the situation. The name may be up to 256 characters in length.

#### Description (KOBSEDEB TREE)

Use the Situation Description pop-up window (KOBSEDEB) to enter a description for the situation. The description may be up to 64 characters in length.

#### Severity (KOBSEDEC TREE)

Use the Situation Severity pop-up window (KOBSEDEC) to enter a severity value for the situation. The severity value is one of seven (7) choices.

When you display situations in the Enhanced 3270 User Interface Enterprise Status Tree (KOBSTITST) or in the Current Situation Status screen (KOBSTITMN), then the severity values are converted to colors, to help you locate the most important exceptional events on your system.

#### Display Items (KOBSEDED TREE)

The Display Items workspace (KOBSEDED) is where you can select one attribute (a column name from a table) that is a 'key' item, which enables you to see multiple events from a single situation.

#### Persistence (KOBSEDEE TREE)

Use the Situation Persistence pop-up window (KOBSEDEE) to enter a value for the number of times the condition must occur before the Situation turns 'true'.

#### Sampling Interval (KOBSEDEF TREE)

Use the Situation Sampling Interval pop-up window (KOBSEDEF) to specify how often the situation's formula should be evaluated. The sampling interval must be at least 30 seconds.

#### **Startup (KOBSEDEG TREE)**

Use the Situation Startup pop-up window (KOBSEDEG) to specify if the situation should be started automatically (sampling should take place) when a monitoring system associated with this situation is 'on line.'

#### **Formula Editing (KOBSEDPA TREE)**

Use the Situation Formula workspace (KOBSEDPA) to view and update the monitoring conditions that are tested during periodic sampling. This workspace is displayed when you select the Formula line item from the Formula tab workspace (KOBSEDTF).

#### **Select Conditions (KOBSEDPD TREE)**

The Select Conditions workspace (KOBSEDPD) is where you select the tables and columns or embedded situations that make up your situation's formula. This workspace is displayed when you create a new situation and when you 'add columns' to an existing situation.

#### **Correlated Situation Selection (KOBSEDCB TREE)**

The Correlated Situation Selection workspace (KOBSEDCB) is where you select a 'Situation + Managed System' pair to be included in a correlated situation you are editing. This workspace is displayed when you first create a correlated situation and when you choose 'Add column' while editing a correlated situation.

#### **Choose a Function (KOBSEDP5 TREE)**

Use the Formula Editing: Choose a Function pop-up window (KOBSEDP5) to select the function to use for the current formula cell.

**Note:** Only those functions that are valid for the cell's particular attribute and data type are displayed in this pop-up window.

#### **Choose an Operator (KOBSEDP6 TREE)**

Use the Formula Editing: Choose an Operator pop-up window (KOBSEDP6) to select the comparison operator to use for the current formula cell.

**Note:** Only those operators that are valid for the cell's particular attribute, data type, and function are displayed in this pop-up window.

#### **Enter a Value (KOBSEDP7 TREE)**

Use the Formula Editing: Enter a Value pop-up window (KOBSEDP7) to directly type the value (a number or character string) for the current formula cell.

#### **Value Choices (KOBSEDP8 TREE)**

Use the Formula Editing: Value Choices pop-up window (KOBSEDP8) to select one or more values from a list of choices. Each item you select is then copied into the cell's value after you select the 'Accept' button.

#### **Enter a Value (KOBSEDP9 TREE)**

Use the Formula Editing: Enter a Value pop-up window (KOBSEDP9) to enter a value for the cell by typing into a special form for any of these functions:

- STR
- SCAN
- Compare date and time (DATE)
- Compare to time delta (TIME)

#### **Distribution Tab (KOBSEDTD TREE)**

The Distribution tab displays a workspace (KOBSEDTD) where you assign the managed systems and managed system groups where the situation should run.

#### **Advice Tab (KOBSEDE TREE)**

The Advice tab displays a workspace (KOBSEDE) where you can view and edit any advice associated with a situation. A value of '\*NONE' or blanks is displayed if there is no advice defined for a situation.

#### **Action Tab (KOBSEDTA TREE)**

The Action tab displays a workspace (KOBSEDTA) that enables you to associate an 'action' (a command or a message) with a situation. When the situation turns 'true' then the action specified with the situation will be executed.

#### **Action Type (KOBSEDAA TREE)**

The Action Type pop-up window (KOBSEDAA) is where you select the type of action (a command or a message) to run when this situation turns 'true'. When the situation turns 'true' then the action specified with this situation will be executed.

#### **When to Run the Action (KOBSEDAB TREE)**

The When to Run the Action pop-up window (KOBSEDAB) is where you select what happens if the condition is true for more than one monitored item.

#### **Where should the Action run (KOBSEDAC TREE)**

The Where should the Action run pop-up window (KOBSEDAC) is where you select the location of the system on which the action should run.

#### **How often should the Action run (KOBSEDAD TREE)**

The How often should the Action run pop-up window (KOBSEDAD) is where you select how frequently the action should run if the condition stays true over multiple intervals.

#### **System Command (KOBSEDAE TREE)**

The Action: System Command pop-up window (KOBSEDAE) is where you enter the system command to run when this situation turns 'true'. When the situation turns 'true' then this system command is executed.

#### **Universal Message (KOBSEDAF TREE)**

The Action: Universal Message pop-up window (KOBSEDAF) is where you enter a message to be issued when this situation turns 'true'. When the situation turns 'true' then this message is issued to the Universal Message Console, which is viewable in the TEP or here:

```
_ (KOBITMLG WENU) ITM Operations Log and Universal Message Console
```

#### **Select Attribute (KOBSEDAS TREE)**

The Select Attribute workspace (KOBSEDAS) is where you select a column (also called an attribute) to be included in the action for the situation. (An action is optional for a situation.) This workspace is displayed when you are editing an action and then select the Attribute Substitution button.

#### **Until Tab (KOBSEDTU TREE)**

The Until tab displays a workspace (KOBSEDTU) that enables you to specify the conditions needed to 'close' this event. The Until settings provide a way to automatically close an event by turning a true situation to false when another situation is true or when the close interval expires. This is particularly useful for pure events that might occur frequently. If no options are selected in this workspace, the situation will remain 'open' until the conditions that caused the situation to turn 'true' are no longer true.

#### **Select Situation (KOBSEDSA TREE)**

The Select Situation workspace (KOBSEDSA) is where you select a situation to be included in the Until settings for the situation. (Until settings are optional for a situation.) This workspace is displayed when you are using the Until workspace and select the Choose Situation button.

## Embedded data

The Enhanced 3270UI embedded data feature brings relevant data from other products into the workspace of the hosting product in a seamless manner that can enable the user to navigate in context directly to other product workspaces.

Each IBM® provided workspace within the Enhanced 3270 user interface (enhanced 3270UI) is hosted by a specific product, for example, OMEGAMON® for z/OS®, CICS®, IMS™, Db2®. A workspace from the OMEGAMON® for z/OS® product, for example, will show details about a z/OS® address space.

The integration of relevant data from other products by the embedded data feature can speed up problem determination and help you to better understand the data. Embedded data makes it easier to diagnose problems, as relevant data is automatically provided by other monitors when available. This presentation of data helps you to learn the relationships between components and data.

An enhanced 3270UI workspace typically consists of one or more sub panels.

When a workspace from one product includes a sub panel definition from another product, the sub panel appears if:

- The other product is installed and configured for the current environment.
- The agent for the other product is running and reporting to the same Tivoli® Monitoring environment.
- The other product has data relevant to the data that is being displayed by the hosting product.

The user does not do anything to see this additional data. If it is there, it appears and if not then it does not.

For example, you might be looking at the OMEGAMON® for z/OS® Address Space Details workspace for a specific address space. If the address space you are looking at is a CICS® region that IBM® Tivoli® Monitoring knows about, you can see data from the CICS® agent on the workspace if the OMEGAMON® for z/OS® Address Space Details workspace includes an appropriate sub panel from the OMEGAMON® for CICS® product.

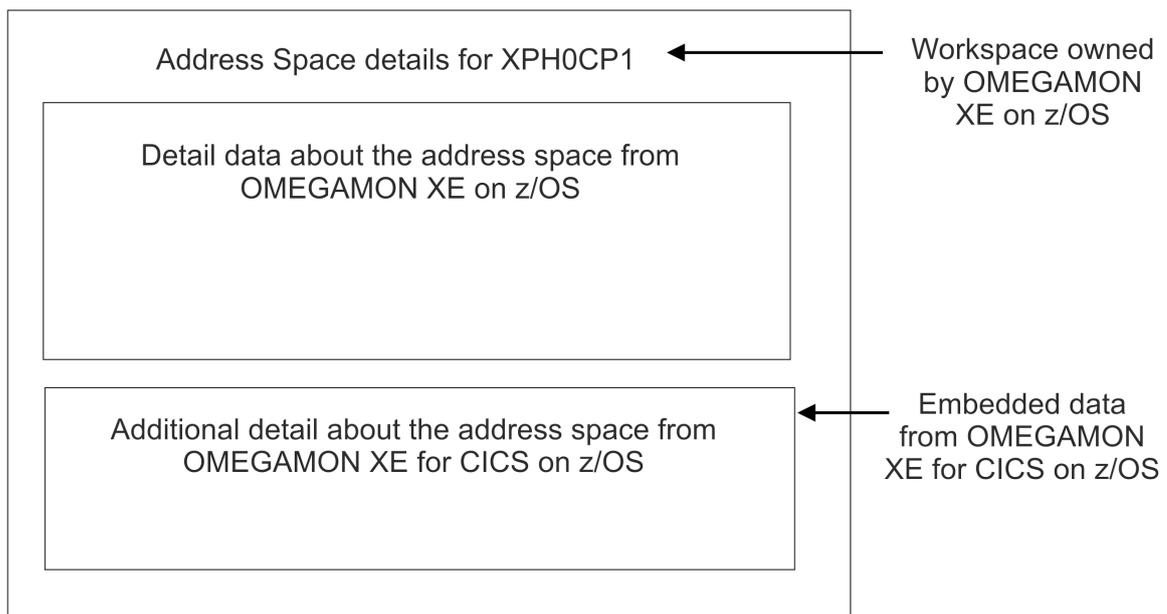


Figure 110: Representation of a workspace from one product that contains embedded data from another product.

## Navigating from embedded data subpanels

You might be able to navigate from enhanced 3270UI embedded data sub panels directly into relevant workspaces for that product. When available, you can use this feature to quickly move to relevant product areas to see more data without having to return to the higher level views and then find the data in another product area.

## Near-term History

Near-term History provides the capability to investigate problems that occurred in the recent past by using the enhanced 3270 user interface. Near-term History provides intuitive access to historical data collected by both agents and IBM® Tivoli® Monitoring.

There are two types of historical workspace available, the historical summary and the historical snapshot.

## Viewing the Historical Summary workspace

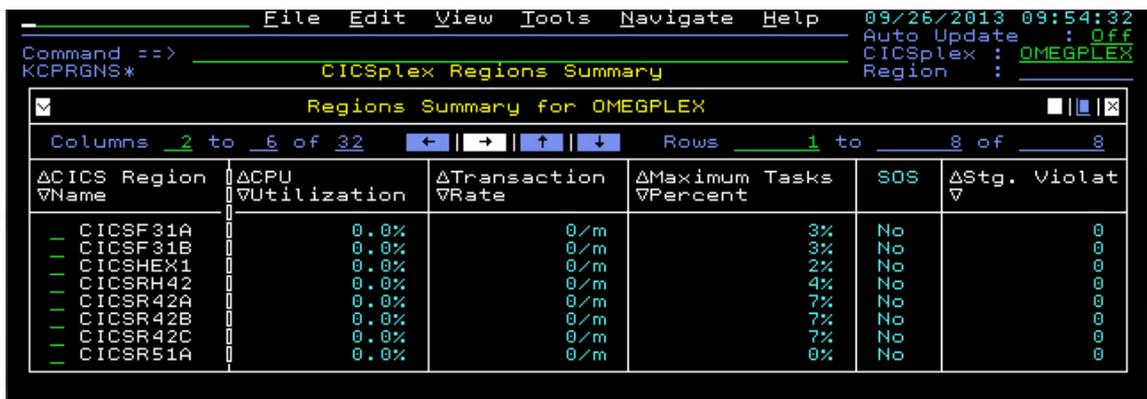
Begin troubleshooting problems that occurred in the recent past by using the **Historical Summary** workspace to view a summary of historical data.

## About this task

The **Historical Summary** shows a historical view of a selected data row from a real-time data summary display. It shows data for the selected row of data that goes back over time.

## Procedure

1. Open a **Historical Summary** workspace view by entering the historical navigation character (H) for a row on an existing summary display. For example, to open a historical **CICSplex Regions Summary** view, place your cursor before a **CICS Region Name** in the normal **CICSplex Regions Summary** workspace, type H and press **Enter**.



The screenshot shows a terminal window with a menu bar (File, Edit, View, Tools, Navigate, Help) and a status bar (09/26/2013 09:54:32, Auto Update: Off, CICSplex: OMEGPLEX, Region: ). The main display is titled "Regions Summary for OMEGPLEX" and shows a table of CICS regions. The table has columns for Region Name, CPU Utilization, Transaction Rate, Maximum Tasks Percent, SOS, and Stg. Violat. The data is as follows:

ΔCICS Region Name	ΔCPU Utilization	ΔTransaction Rate	ΔMaximum Tasks Percent	SOS	ΔStg. Violat
- CICSF31A	0.0%	0/m	3%	No	0
- CICSF31B	0.0%	0/m	3%	No	0
- CICSHEX1	0.0%	0/m	2%	No	0
- CICSRH42	0.0%	0/m	4%	No	0
- CICSR42A	0.0%	0/m	7%	No	0
- CICSR42B	0.0%	0/m	7%	No	0
- CICSR42C	0.0%	0/m	7%	No	0
- CICSRS51A	0.0%	0/m	0%	No	0

Figure 111: CICSplex Regions Summary workspace

The **Historical Summary** workspace opens. The workspace shows a historical view of the selected data row. A **HISTORY** indicator is highlighted in the header and footer areas to clearly distinguish that the workspace contains historical rather than current data.

File Edit View Tools Navigate Help 09/26/2013 10:38:06  
 Display : HISTORY  
 CICSplex : DMEGPLEX  
 Region :  
 Command ==>  
 KCPRGNS\*

Selected item CICSF31A

Columns 3 to 6 of 33 Rows 1 to 22 of 22

Recording Time	CICS Region Name	CPU Utilization	Transaction Rate	Maximum Tasks Percent	SOS
10:35:00	CICSF31A	0.0%	0/m	3%	No
10:30:00	CICSF31A	0.0%	0/m	3%	No
10:25:00	CICSF31A	0.0%	0/m	3%	No
10:20:00	CICSF31A	0.0%	0/m	3%	No
10:15:00	CICSF31A	0.0%	0/m	3%	No
10:10:00	CICSF31A	0.0%	0/m	3%	No
10:05:00	CICSF31A	0.0%	0/m	5%	No
10:00:00	CICSF31A	0.0%	0/m	5%	No
09:55:00	CICSF31A	0.0%	0/m	3%	No
09:50:00	CICSF31A	0.0%	233/m	85%	Yes
09:45:00	CICSF31A	0.0%	285/m	22%	No
09:40:00	CICSF31A	0.0%	177/m	47%	No
09:35:00	CICSF31A	0.0%	0/m	3%	No
09:30:00	CICSF31A	0.0%	0/m	3%	No
09:25:00	CICSF31A	0.0%	0/m	3%	No
09:20:00	CICSF31A	0.0%	0/m	3%	No
09:15:00	CICSF31A	0.0%	245/m	45%	No
09:10:00	CICSF31A	0.0%	243/m	68%	Yes
09:05:00	CICSF31A	0.0%	0/m	3%	No
09:00:00	CICSF31A	0.0%	0/m	3%	No
08:55:00	CICSF31A	0.0%	0/m	3%	No
08:50:00	CICSF31A	0.0%	0/m	3%	No
08:45:00	CICSF31A	0.0%	0/m	3%	No
08:40:00	CICSF31A	0.0%	0/m	3%	No

26 September 07:25 to 26 September 09:25 HISTORY

Figure 112: Example of a **Historical Summary** workspace

- View the data row summaries that go back through time to identify a time period when problems occurred.
  - In the view that is shown in “[Figure: Example of a Historical Summary workspace](#)” on page 930 the summary row of historical data at the **Recording Time** 09:50:00 indicates that a short-on-storage (SOS) condition occurred for region CICSF31A. The **Transaction Rate** and **Maximum Tasks Percent** are also highlighted as being above threshold alarm values.
  - Use indications such as the **SOS** and threshold alarms in the previous bullet to identify when problems occurred and to look at the highlighted time interval in more detail. For example, you can select the 09:50:00 interval and view more detailed snapshots of the data available for that period. For more information about viewing historical snapshot data, see “[Viewing the Historical Snapshot workspace](#)” on page 931.
  - You can configure the time interval between the recorded data snapshots. For more information about configuring the historical data collection, see “[Configuring near-term history data collection for an application](#)” on page 933
  - You can configure the time-span over which data snapshots are shown in the history summary workspace. For more information about configuring the history time-span view, see “[Configuring the history time-span](#)” on page 932.

**Restriction:** If a workspace is not configured to show a historical summary, the following message is displayed after you enter H and press **Enter** from the workspace.



Place your cursor over the message and press **Enter** to go to the relevant historical configuration workspace. For more information about configuring the historical data collection, see “[Configuring near-term history data collection for an application](#)” on page 933

## Viewing the Historical Snapshot workspace

Troubleshoot problems that occurred in the recent past in more detail by viewing a historical snapshot of a workspace at a specific point in time.

### Before you begin

Use the **Historical Summary** workspace to begin troubleshooting problems that occurred in the recent past. For more information about the **Historical Summary** workspace, see [“Viewing the Historical Summary workspace” on page 929](#).

### About this task

The snapshot view can be either a summary, detail, or combined summary and detail panel.

### Procedure

1. Place your cursor before a specific **Recording Time Interval** in a historical summary workspace, type / and press **Enter** to view the **Options Menu**. The **Options Menu** is displayed.

**Tip:** The options that are displayed usually mirror the options available from the equivalent real-time workspace.

2. Choose an option from the **Options Menu** to open the associated **Historical Snapshot** workspace. For example, to open the **CICS Region Overview (History)** workspace that is shown in [“Figure: Example of a Historical Snapshot workspace” on page 932](#),
  - a. Place your cursor before a **Recording Time Interval** in the historical **CICSplex Regions Summary** workspace, [“Figure: Example of a Historical Summary workspace” on page 930](#), type / and press **Enter**. The **Options Menu** is displayed.
  - b. Type s and press **Enter** to choose the **CICS Region Overview**.

A historical snapshot view of the **CICS Region Overview** workspace opens. A **HISTORY** indicator is highlighted in the header and footer area to clearly distinguish that the workspace contains historical rather than current data.

The time of the current snapshot is highlighted in the footer area. Scrolling arrows are available either side of the current snapshot time. Use these arrows to scroll forwards or backwards to the next or previous snapshot. Alternatively you can enter the commands **NEXT** and **PREVIOUS** on the command line.

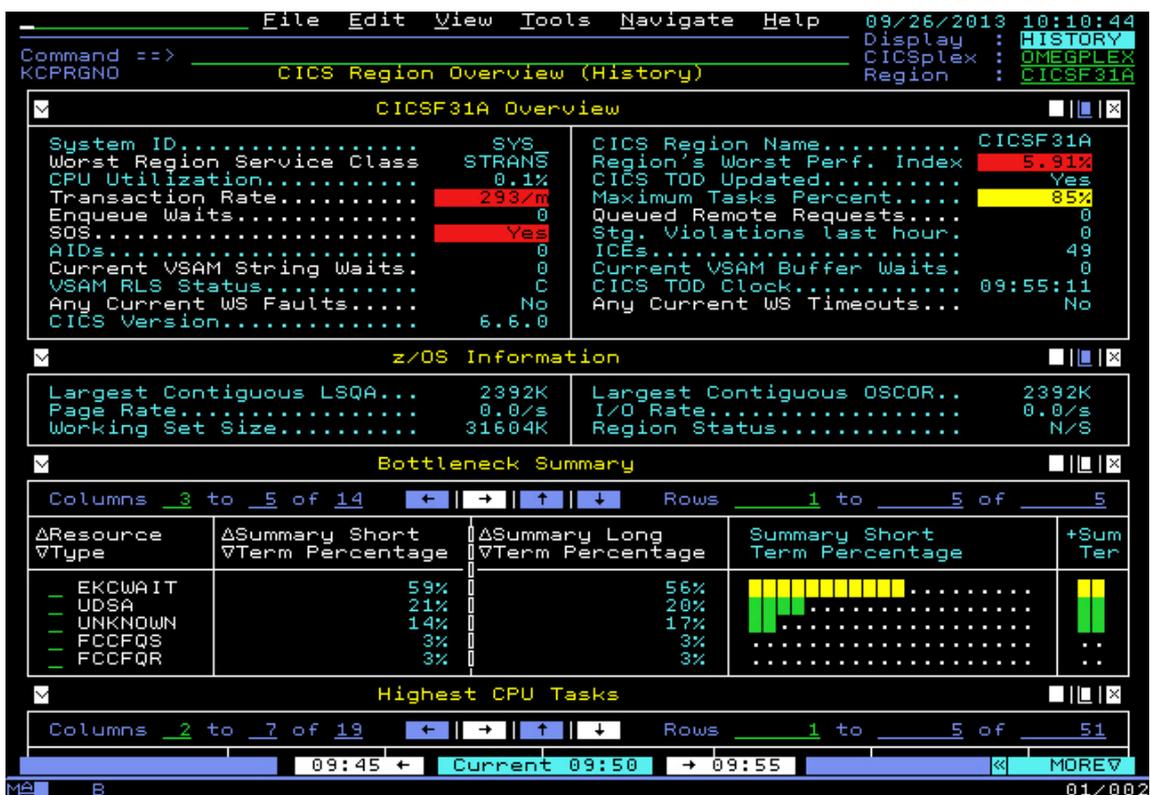


Figure 113: Example of a **Historical Snapshot** workspace

**Restriction:** If the first subpanel in a workspace (generally the most important) is not eligible to show a historical snapshot, the equivalent real-time workspace opens. However, if the first subpanel is eligible to show a historical snapshot and another subpanel is not eligible, the following message is displayed for the ineligible subpanel.



Place your cursor over the message and press **Enter** to go to the general historical configuration workspace to show which attribute groups can be configured for near-term history data collection. For more information about configuring the historical data collection, see [“Configuring near-term history data collection for an application”](#) on page 933.

## Configuring near-term history

You can configure near-term history data collections, their frequency and various other parameters associated with the collections.

## Configuring the history time-span

You can configure the time-span over which data snapshots are shown in the history summary workspace.

## Before you begin

Go to the history summary workspace for the product you want to monitor.

## Procedure

- Make one of the following choices:
  - From the menu bar select **View > History Timespan**.
  - Move your cursor over the **HIS** icon in the drawer and press **Enter**.

The **History Selection** pop-up window opens.



Figure 114: History Selection pop-up window

You can select from the following history time-span configuration options

#### Historical Last *nnn* Minute(s)

This option when selected shows the history data summary over the last *nnn* minutes. You can configure the number of minutes that are specified by *nnn* by entering a value and selecting **OK**. The default value is 10 minutes.

#### Historical Last *nnn* Hour(s)

This option when selected shows the history data summary over the last *nnn* hours. You can configure the number of hours that are specified by *nnn* by entering a value and selecting **OK**. The default value is 2 hours.

#### Historical Time Range

This option when selected shows the history data summary over the time range that is specified in the **Start** and **End** fields. You can configure the start and end times, and dates, by entering values in these fields and selecting **OK**.

### Selecting an application to configure for Near-term History

You can select an application to configure for Enhanced 3270UI near-term history data collection

#### Procedure

1. From the menu bar select **View > History Configuration**.  
The **PDS Historical Collection Control** workspace opens.

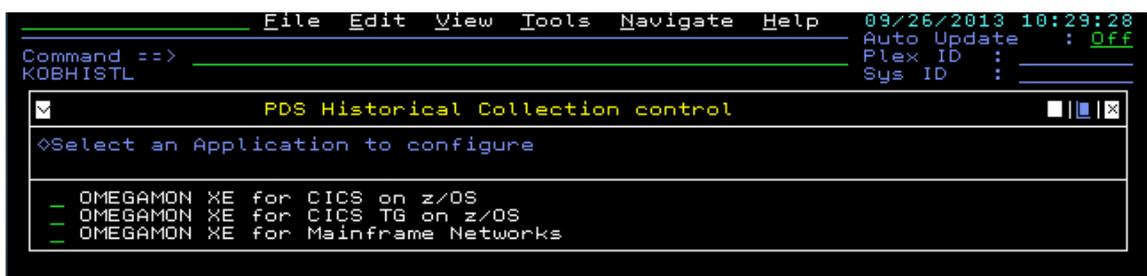


Figure 115: PDS Historical Collection control workspace

2. Place your cursor before the application name that you want to configure for near-term history data collection and press **Enter**.  
The **Historical tables** workspace opens. For more information about configuring historical tables, see [“Configuring near-term history data collection for an application”](#) on page 933

### Configuring near-term history data collection for an application

You can configure Enhanced 3270UI near-term history data collection for application-specific attribute groups. You can specify that the data for the attribute groups is collected over specific *Managed Systems* and *Managed System Lists*. You can also specify whether the data is stored at the monitoring server or at the monitoring agents. Storing data at the monitoring agents is preferred. The historical configuration procedure creates Tivoli Monitoring situations that are employed to control historical data collection.

## Before you begin

Go to an application-specific workspace and select **View > History Configuration** from the menu bar, or select an application to configure for Near-term History. For more information about selecting an application to configure for Near-term History, see [“Selecting an application to configure for Near-term History” on page 933](#). After you do one of these actions, the **Historical tables** configuration workspace opens. The attribute groups that can be configured for near-term history data collection for your chosen application are listed in the workspace.



Figure 116: *Historical tables workspace*

**Restriction:** You cannot use the procedure that is described here to change or delete historical data collections that use Tivoli Data Warehouse. Collections that use Tivoli Data Warehouse are configured with another interface, such as the Tivoli Enterprise Portal. If you do try to change or delete collections that use Tivoli Data Warehouse, a pop-up message warns that you cannot configure the collection with the enhanced 3270UI. Use the Tivoli Enterprise Portal to change or delete such collections.

## Procedure

1. Place your cursor before the attribute group name that you want to configure for near-term history data collection and press **Enter**.  
The **OMEGAMON History Configuration** workspace opens. The view defaults to the **General** tab.

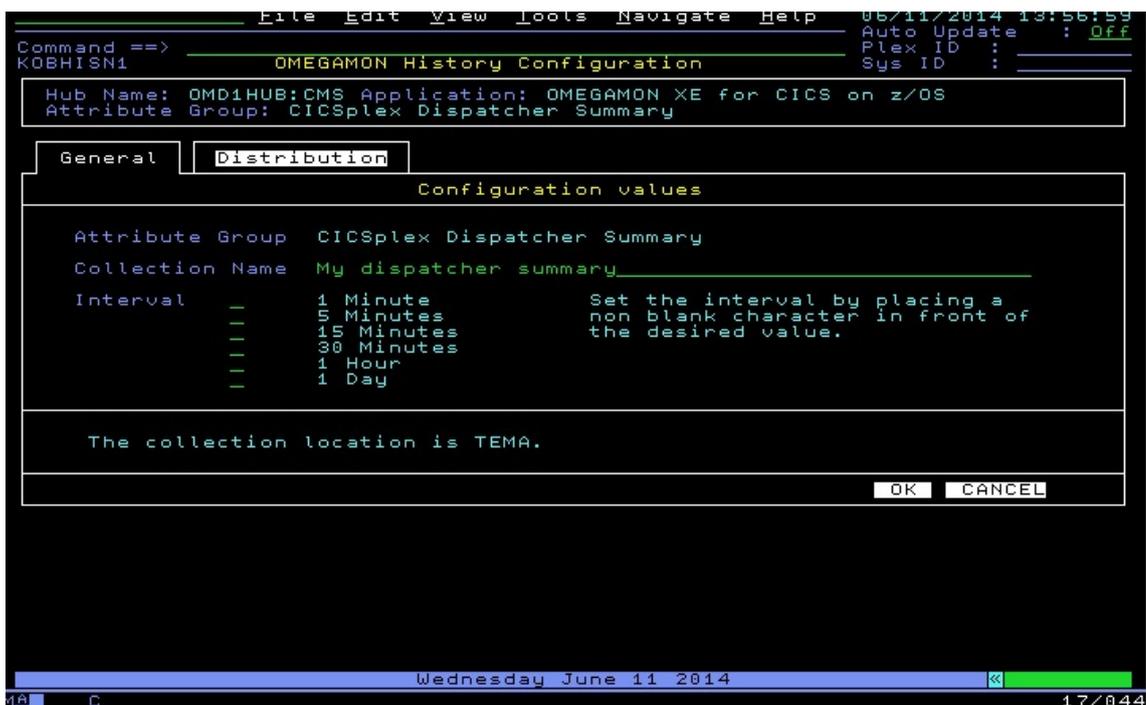
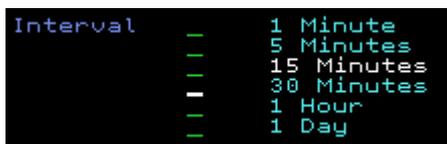


Figure 117: General tab of the OMEGAMON History Configuration workspace.

2. Enter a name for this data collection in the **Collection Name** field and press **Enter**.
3. Select the **Interval** time that you want for this collection, by placing your cursor before an interval time, typing s, and pressing **Enter**.  
The selected interval changes color.



4. The location of the collection might be configurable. If so, the following shows in the middle of the screen:



Select the **Collection Location** by placing your cursor before **TEMA** (monitoring agent), or **TEMS** (monitoring server), and pressing **Enter**.

In many cases, the location is predetermined for many attributes. In this case, the view looks as follows:



or



In this case, no selection can be made. If the Tivoli Enterprise Portal was used to create the collection, it is possible that collection is configured in a way that cannot be replicated by the TOM. In this case, the following can occur.



No changes are allowed to this collection.

5. Select the **Distribution** tab and press enter to go to that tab.  
The **Distribution** tab opens.

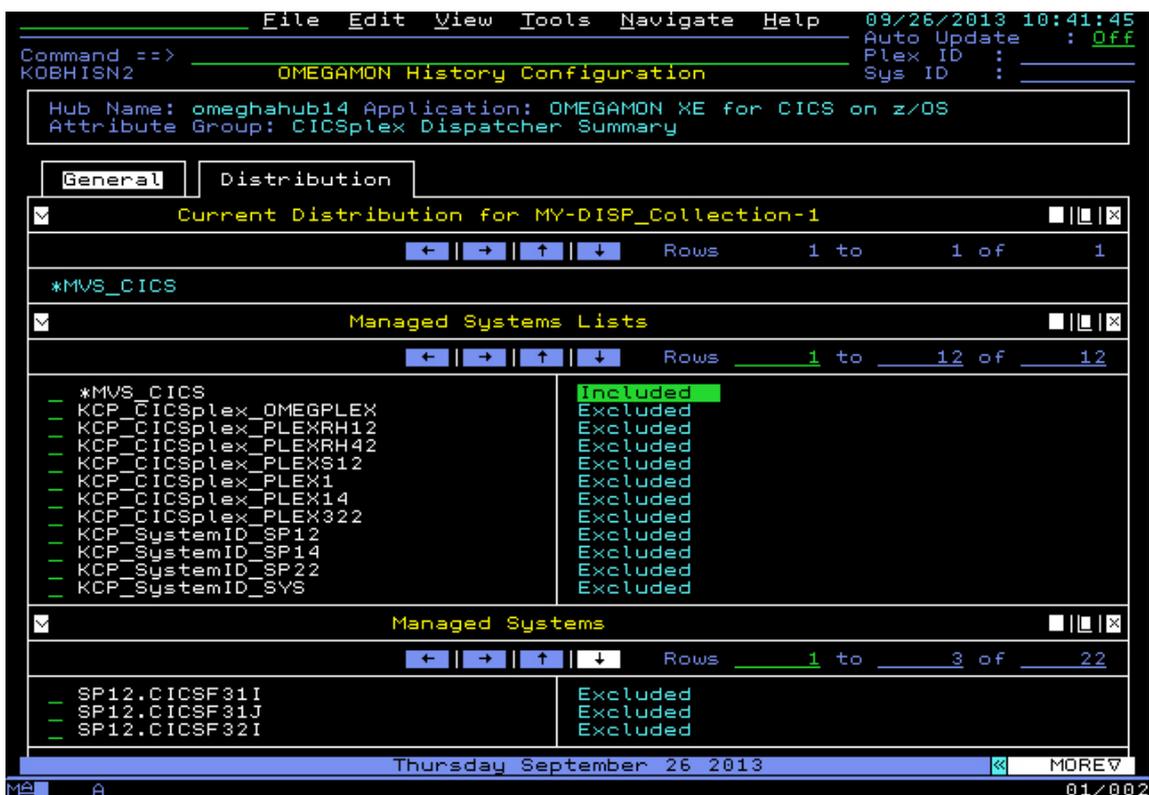
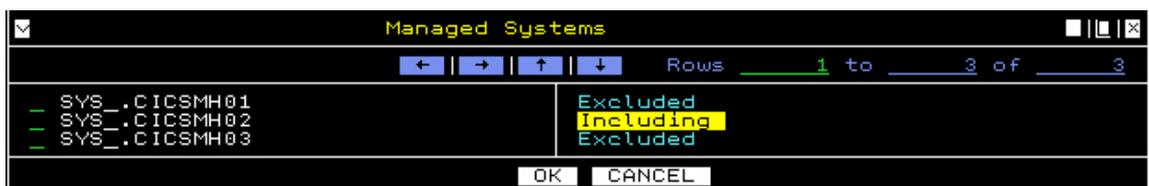


Figure 118: Distribution tab of the OMEGAMON History Configuration workspace.

Use this tab to set up your data collection to run either on specific Managed Systems or for a Managed System List.

**Tip:** Specifying a Managed System List usually indicates collection for one or more Managed Systems.

6. Select one or more Managed Systems or Managed System Lists for your collection by placing your cursor before the system or list name, typing **s**, and pressing **Enter**. The selected distribution's collection status changes from **Excluded** to **Including** to indicate that you are including them in the collection.



7. To save your collection, place your cursor over **OK** and press **Enter**. To exit without saving your collection, place your cursor over **CANCEL** and press **Enter**. Alternatively, if you navigate away from the **General** or **Distribution** tabs, your changes will not be saved.

## Result

You are returned to the **Historical tables** configuration workspace. If you saved your data collection, it is listed under the Attribute Group and **Collection name** that you chose at step “2” on page 935.

## User Preferences

The OMEGAMON® enhanced 3270 user interface provides administrative workspaces to assist subject matter experts and other users to set up and customize their preferences.

Workspaces that assist subject matter experts and other users to set up and customize their preferences are:

- User profile customization

- Log on Administration and customization

## Customizing a user profile

To customize your user profile, use the **User Profile Member** workspace.

### Procedure

1. From the menu bar select **Edit > Preferences**.  
The **User Profile Member** workspace opens.



Figure 119: User Profile Member workspace

The **User Profile Member** workspace contains a number of tabbed panels that contain user profile settings that you can change and save. The following settings are available:

#### Date/Time

This panel contains the following date and time format settings

##### Date begins with

Enter MM for the American format, MM/DD/YYYY.

Enter DD for the European format, DD/MM/YYYY.

Enter YY for the Mathematical format, YYYY/MM/DD.

##### Date separator

Enter your preferred separator character. You can use any displayable character.

##### Time Clock

Enter 12 or 24 for 12 or 24 hour clock format

##### Time separator

Enter your preferred time clock separator character. You can use any displayable character.

#### Colors

This panel contains color assignments for various workspace elements and indicators. You can enter your preferred color in the input field for each item.

#### Session/Logon

This panel contains settings that apply to your logon session to the interface.

### **First workspace to be displayed**

Specifies the workspace that you want to be displayed at logon, the default is KOBSTART.

### **First NAV1 Plex-level Value**

Specifies the plex (Sysplex, CICSplex, IMSplex) for which data is displayed on the first workspace. The value is a simple text string.

### **First NAV2 System-level Value**

Sets the system, subsystem, or region within the plex for which data is displayed. The value is a simple text string.

### **Engage Trace**

You can choose whether to engage trace at the start of your logon session by entering Y or N.

### **Global Query Timeout Value**

Specifies the number of seconds that a workspace waits before timing out all queries combined. Each subpanel is apportioned a percentage of this value that is based on each query definition. You can enter a number in the range of 0 - 999. If you enter 0, the timeout mechanism is disengaged.

## **Auto/Update**

This panel contains auto update settings that determine the refresh frequency of the data that is displayed in a workspace.

### **Auto Update Frequency**

You can enter the auto update frequency. The allowable range is 5 - 999 seconds.

### **Auto Update Suspend Cycle Count**

You can enter the number of refresh cycles that are allowed before auto update is automatically suspended. The allowable range is 10 - 9999 refresh cycles.

## **Hub Check**

### **Hub Check when no data is displayed**

The interface detects when a workspace displays no data, and can automatically check the connection to the hub Tivoli® Enterprise Monitoring Server. The **Hub Check when no data is displayed** setting controls the number of consecutive *No Data* displays before a hub connectivity check is triggered. The allowable range is 0 - 9 cycles. A setting of 0 means no hub connectivity check. Any positive number drives the hub connectivity check, and if the hub is found to be unresponsive, the interface goes to Hub connectivity administration. For more information about Hub connectivity administration, see [“Hub connectivity administration” on page 981](#).

### **Limit Hub Check to Auto/Update**

To limit the Hub connectivity check to when Auto Update is enabled, set to Y, otherwise set to N.

>>

Click the >> tab to access more menu items (detailed in the following entries).

<<

Click the << tab to return to the previous set of tabs.

## **ISPF**

This panel contains options for controlling the behavior of the tab key on your keyboard, within the enhanced 3270 user interface.

### **Tab to action bar**

To use the tab key to navigate between action bar options, set to Y, to disable, set to N.

### **Tab to point-and-shoot fields**

To use the tab key to navigate to push buttons, set to Y, to disable, set to N.

## **History**

Use this panel to configure the time period that is shown in your historical data.

#### Historical Last *nnn* Minute(s)

This option when selected shows the history data summary over the last *nnn* minutes. You can configure the number of minutes that are specified by *nnn* by entering a value and selecting **OK**. The default value is 10 minutes.

#### Historical Last *nnn* Hour(s)

This option when selected shows the history data summary over the last *nnn* hours. You can configure the number of hours that are specified by *nnn* by entering a value and selecting **OK**. The default value is 2 hours.

2. Make one of the following choices:

- Click **OK** to save and view your settings for the current session only. Your settings are saved for the current session and you are returned to the workspace you were in before you set preferences.
- Click **Save** if you are satisfied with your settings and want to save them permanently to a profile member. The **Profile Save As** dialog box opens:



Figure 120: User Profile Member workspace

Your user ID is already entered in the **Member Name** field.

- Press **Enter** to save the profile to the member name in the **Member Name** field. If the member already exists, it is updated. If it does not exist, a new member with that name is created.

## Customizing KOBSITEC as the initial workspace

The **ITM Situation Status & Message log** (KOBSITEC) workspace can be a useful alternative to the default initial workspace, if you use Tivoli Enterprise Portal Server situation monitoring.

### About this task

You can use the **ITM Situation Status & Message log** (KOBSITEC) workspace to display IBM Tivoli Monitoring Situations status information in the enhanced 3270 user interface. The status information is similar to the information provided by the Tivoli Enterprise Portal Situation Event Console, that is, situation status for current situations events and situation event history. KOBSITEC also enables navigation to OMEGAMON products high-level workspace via the situation status row action selection. To change the default initial workspace KOBSTART to KOBSITEC, use the following procedure.

### Procedure

- Use the procedure that is detailed in [“Customizing a user profile” on page 937](#) to change the setting **First workspace to be displayed** to KOBSITEC.  
When you log on the KOBSITEC workspace is now displayed as the initial workspace.
- Optional: Enter =KOBSITEC in the action bar or command line and press **Enter** to go directly to the KOBSITEC workspace.

### Result

The screenshot displays two tables within the ITM Situation Status & Message log workspace. The top table, 'Current Situation Event Status', lists various system events with columns for status, situation name, MSN event source, HUB event time, agent event time, and display item. The bottom table, 'Situation Event Message Log', provides a detailed log of these events, including monitoring server information.

ΔStatus	ΔSituation Name	ΔMSN Event Source	ΔHUB Event Time	ΔAgent Event Time	ΔDisplay Item
Open	TLD_IMSAdrSpc_TCBTime	IB1D:SP22:IMS	13/05/02 19:38:24	13/05/02 19:38:23	
Open	KHD_Error_Critical	VCWINSE1:Warehouse	13/05/02 16:31:01	13/05/02 16:31:01	CTX_00BCError
Open	TLD_OMEGAVIEW_Crit	OMOH41	13/05/02 14:13:28	13/05/02 14:13:28	
Open	TLD_OMEGAVIEW_None	OIOHL10	13/05/02 09:30:58	13/05/02 09:30:58	
Open	TLD_OMEGAVIEW_None	OIOHL11	13/05/02 09:20:58	13/05/02 09:20:58	
Open	TLD_IMSplex_MonStatus	IMSplex:IMSplex:Plexview	13/05/02 08:24:28	13/05/02 08:24:28	
Open	TLD_IMSplex_RTASStatus	IMSplex:IMSplex:Plexview	13/05/02 08:24:28	13/05/02 08:24:28	
Open	TLD_IMSplex_RecEntsAlloc	IRLHCY:LPAR400J:DSGROUP	13/05/02 08:15:28	13/05/02 08:15:28	
Open	TLD_IMSplex_RecEntsAlloc	DFSIBCG:LPAR400J:SQGROUP	13/05/02 08:15:28	13/05/02 08:15:28	
Open	TLD_IMSplex_RecEntsAlloc	IRLHBC:LPAR400J:DSGROUP	13/05/02 08:15:28	13/05/02 08:15:28	
Open	TLD_IMSplex_TRFStatus	IMSplex:IMSplex:Plexview	13/05/02 08:14:58	13/05/02 08:14:58	
Open	TLD_IMSAdrSpc_TCBTime	IB1D:SP22:IMS	13/05/02 02:24:53	13/05/02 02:24:53	
Open	ZIBM_STAT1C014_2D796C449CCF4383	IB1D:SP22:IMS	13/05/02 02:24:53	13/05/02 02:24:53	
Open	TLD_OMEGAVIEW_Mann	M20M41	13/05/01 23:34:58	13/05/01 23:34:58	
Open	KHD_Error_Critical	VCWINSE1:Warehouse	13/05/01 19:12:28	13/05/01 19:12:28	
Open	NST_CUSTOM_Byte_Rate_Zero	TCP1P22:SP22	13/05/01 16:30:41	13/05/01 16:30:41	CTX_00BCError
Open	IMS_BP_Locked_Count	IC12:SP13:IMS	13/05/01 16:02:54	13/05/01 16:02:54	
Open	IMS_BP_Locked_Count	IB1D:SP22:IMS	13/05/01 15:32:54	13/05/01 15:32:54	
Open	ZIBM_STAT1C014_2D796C449CCF4383	IC12:SP13:IMS	13/05/01 15:24:58	13/05/01 15:24:58	

ΔStatus	ΔSituation Name	ΔMSN Event Source	ΔHUB Event Time	ΔAgent Event Time	ΔMonitoring Server
Closed	DB_Test_System	TVT1074.tivlab.raleigh.ibm.com:V	13/05/03 10:16:59	13/05/03 10:16:59	SYSL:CMS
Open	TLD_IMSAdrSpc_TCBTime	IB1D:SP22:IMS	13/05/02 19:38:24	13/05/02 19:38:23	SP22:CMS
Open	KHD_Error_Critical	VCWINSE1:Warehouse	13/05/02 16:31:01	13/05/02 16:31:01	SYSL:CMS
Open	TLD_OMEGAVIEW_Crit	OMOH41	13/05/02 14:13:28	13/05/02 14:13:28	*CUSTOM_MSL
Open	TLD_OMEGAVIEW_None	OIOHL10	13/05/02 09:30:58	13/05/02 09:30:58	SYSL:CMS
Open	MS_Offline	OIOHL10	13/05/02 09:30:58	13/05/02 09:30:58	SYSL:CMS
Open	TLD_OMEGAVIEW_None	OIOHL11	13/05/02 09:20:58	13/05/02 09:20:58	SYSL:CMS
Open	MS_Offline	OIOHL11	13/05/02 09:20:58	13/05/02 09:20:58	SYSL:CMS
Open	MS_Offline	ICLN:SYSL:IMS	13/05/02 08:25:28	13/05/02 08:25:58	SYSL:CMS
Open	TLD_IMSplex_MonStatus	IMSplex:IMSplex:Plexview	13/05/02 08:24:28	13/05/02 08:24:28	SYSL:CMS
Open	TLD_IMSplex_RTASStatus	IMSplex:IMSplex:Plexview	13/05/02 08:24:28	13/05/02 08:24:28	SYSL:CMS
Open	TLD_IMSplex_RecEntsAlloc	IRLHCY:LPAR400J:DSGROUP	13/05/02 08:15:28	13/05/02 08:15:28	SYSL:CMS
Open	TLD_IMSplex_RecEntsAlloc	DFSIBCG:LPAR400J:SQGROUP	13/05/02 08:15:28	13/05/02 08:15:28	SYSL:CMS
Open	TLD_IMSplex_RecEntsAlloc	IRLHBC:LPAR400J:DSGROUP	13/05/02 08:15:28	13/05/02 08:15:28	SYSL:CMS
Open	TLD_IMSplex_TRFStatus	IMSplex:IMSplex:Plexview	13/05/02 08:14:58	13/05/02 08:14:58	SYSL:CMS
Open	MS_Offline	I2OHL10	13/05/02 08:07:58	13/05/02 08:07:58	SYSL:CMS
Open	MS_Offline	IBLH:SYSL:IMS	13/05/02 08:06:58	13/05/02 08:06:58	SYSL:CMS
Open	MS_Offline	I2OHL11	13/05/02 07:57:58	13/05/02 07:57:58	SYSL:CMS
Open	TLD_IMSAdrSpc_TCBTime	IB1D:SP22:IMS	13/05/02 02:24:53	13/05/02 02:24:53	SP22:CMS
Open	ZIBM_STAT1C014_2D796C449CCF4383	IB1D:SP22:IMS	13/05/02 02:24:53	13/05/02 02:24:53	SP22:CMS

Figure 121: ITM Situation Status & Message log workspace.

The ITM Situation Status & Message log (KOB SITEC) workspace provides the following subpanel attributes:

**Status**

The Tivoli Monitoring Situation event status; for example, OPEN, ACKNOWLEDGED, REOPENED.

**Situation Name**

A unique name that identifies the Tivoli Monitoring Situation.

**MSN Event Source**

The name of the managed system where the situation is being monitored.

**HUB Event Time**

A time stamp that indicates the time the event occurrence or situation condition was recorded by the Hub Tivoli Enterprise Management Server.

**Agent Event Time**

A time stamp that indicates the time the event occurrence or situation condition was observed by the originating managed system.

**Display Item**

A related attribute that helps identify a unique instance of a situation event in the case where there are multiple instances/rows (that is, events) for a specific situation.

**Type**

The type of situation event, that is, a pure type where the situation has no sampling interval and the related alert notification is unsolicited, or, a sampled type where the situation condition is sampled on a specified interval.

**Logon administration and customization**

When you log on to the enhanced 3270 user interface (enhanced 3270UI) for the first time, **Hub Connectivity Administration** can assist you to specify a hub Tivoli® Enterprise Monitoring Server connection.

**Procedure**

1. Log on to the user interface in the standard way.  
For more information about logging on, see [“Logging on” on page 900](#).



**Tip:** You can browse overview status information about each hub from this workspace. For more information about the **All Known Hubs (KOBHUBS)** workspace, see [“The All Known Hubs workspace” on page 992](#).

3. On the **All Known Hubs (KOBHUBS)** workspace, place your cursor next to a hub monitoring server name and press **Enter**.  
The **Action Confirmation** panel is displayed. The panel lists information about the hub monitoring server to be used for your workspace queries. On the **Action Confirmation** panel, you can enter Y to confirm the action or N to cancel the action.
4. Enter Y to confirm the action. The **Hub Verification Complete (KOBHUB04)** workspace is displayed and shows two green information boxes that indicate a successful TCP/IP connection.

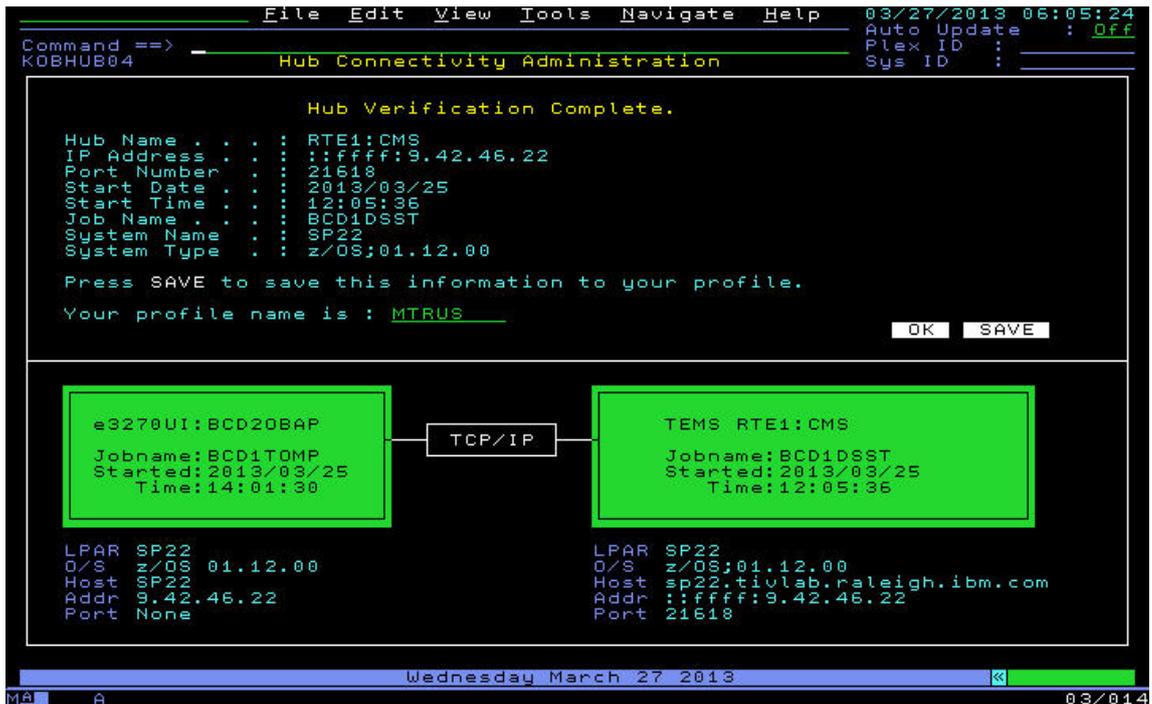


Figure 124: Hub Verification Complete (KOBHUB04) workspace that shows a successful hub connection

- a. To save the hub monitoring server name to your user profile, select **SAVE**.
- b. To use the selection for your current enhanced 3270UI session, select **OK**.

## Result

Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

## Customization

The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) provides workspaces to help subject matter experts customize workspace views for site specific and required use.

## Customizing workspaces

Every OMEGAMON product that supports the enhanced 3270 user interface (enhanced 3270UI) provides a set of predefined workspaces that can be used to resolve common problems. These workspaces can be modified to display exactly the information that you want to most effectively use the OMEGAMON monitoring agents in your environment. You can also create your own custom workspaces.

## Workspace viewing and cloning

The OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) provides the capability to view and clone product provided workspaces.

Workspace viewing and cloning can be used to provide the user with the capability to customize the standard product defined workspaces that are delivered with the enhanced 3270UI. Modify or create workspaces by first cloning (copying) the workspace. Then, use a file editor such as the ISPF editor to edit the cloned workspace.

### Preparing for workspace cloning

In preparation for workspace cloning by an enhanced 3270UI user, complete the following administrative steps:

1. Ensure that the interface user has the required authority.  
The cloning process copies a standard product provided workspace from a configuration runtime environment data set to a user workspace data set. The runtime environment data set is read only and the user workspace data set is writeable. The user that wants to clone a workspace must have the authority to create new members in the user workspace data set. The default user workspace name is `<hilev>.<rtename>.UKANWENU`.
2. Ensure that the user workspace data set is the first data set that is specified in the `RKANWENU DD` statement. The user workspace data set is pointed to by the enhanced 3270UI started task `JCL UKANWENU DD` statement.  
If you ensure that the user workspace data set is the first data set, workspace testing is facilitated when customization changes are applied.

**Important:** It is important that the same `<hilev>.<rtename>.UKANWENU` data set is specified first in both the `UKANWENU DD` and `RKANWENU DD` statements.

3. Minimize potential disruptions to other enhanced 3270UI users.  
Because the cloning and customization process modifies product provided workspaces, the process must be done in a configuration that is not disruptive to ongoing normal usage of the enhanced 3270UI. For example, a separate enhanced 3270UI address space with a unique instance of the user workspace data set might be employed during the customization and testing process. Following customization and testing, the changes might be deployed to a shared development or production configuration by copying the customized workspaces into a corresponding data set that is specified in the shared development or production configuration enhanced 3270UI started task `JCL`.

## Related information

[Cloning a workspace](#)

[Browsing, locating and cloning a workspace](#)

### Cloning a workspace

Make a copy of a workspace and save it to your private data set.

### Before you begin

You must complete some administrative steps before you clone a workspace. For more information about completing these steps, see [“Preparing for workspace cloning” on page 943](#).

### Procedure

1. Go to the workspace to be cloned.  
The workspace name is beneath the command-line entry area of the workspace display. For example, in the following workspace view the workspace name is **KOBSTART**.



Figure 125: Identify the workspace name

2. Select **View > Workspace Source**  
The **Partitioned Dataset Member** (KOBPDSD) view opens showing a view of the KOBSTART workspace content.
3. Select **File > Save As** to clone the workspace that is being viewed.  
For example, to clone the KOBSTART workspace, place the cursor on **File** on the menu bar and press **Enter**. Then, from the **File** menu, select option 4, **Save As** by typing a or 4 and pressing **Enter**.

**Fastpath:** You can fast path to **File > Save As** by entering `f . a` in the action line.



Figure 126: Cloning a workspace by using the **File > Save As** menu option.

When you press **Enter**, the **Member Save As** dialog box opens:



Figure 127: Cloning a workspace - the **Member Save As** dialog box

4. Enter the workspace name that you want to use for the cloned workspace.  
If you are cloning a product provided workspace under the assumption that it is to supersede the product provided instance of the same workspace, the **Save As** name that you enter must be identical to the name of the product provided workspace, for example as shown in “[Figure: Cloning a workspace - the Member Save As dialog box](#)” on page 944.  
The saved workspace is written to the user workspace data set. The original product provided workspace is preserved intact in the runtime environment data set.  
When you press **Enter**, the **Save As** action is confirmed and you are returned to the **Partitioned Dataset Member** (KOBPDSD) view.
5. Optional: Go to the **Runtime Environment (Workspaces)** workspace to view your saved workspace  
For more information about browsing and locating workspaces, see “[Browsing, locating and cloning a workspace](#)” on page 945

## What to do next

When the workspace cloning is complete, the next step is to edit and test the workspace, customizing its contents to your requirements. Use a file editor such as the ISPF editor to edit the workspace.

## Related information

[Preparing for workspace cloning](#)

[Customization of product provided workspaces](#)

[Browsing, locating and cloning a workspace](#)

## Browsing, locating and cloning a workspace

You can use the **Runtime Environment (Workspaces)** workspace to browse the available workspaces and to locate a specific workspace for cloning.

## Before you begin

You must complete some administrative steps before a workspace is cloned. For more information about these steps, see [“Preparing for workspace cloning” on page 943](#).

## Procedure

1. Go to the **Runtime Environment (Workspaces)** workspace to browse the available workspaces. There are a number of ways you can go to this workspace:
  - Select **File > Open**. To do this, place the cursor under **File** on the menu bar and press **Enter**. Then, from the **File** menu select option 2.
  - Select **Tools > Runtime Environment** from the menu bar. The **Runtime Environment** workspace opens. Then, move your cursor over the **Workspaces** button and press **Enter**.
  - Move your cursor over the **RTE** icon in the drawer and press **Enter**. The **Runtime Environment** workspace opens. Then, move your cursor over the **Workspaces** push button and press **Enter**.

When you make one of the previous three choices, the **Runtime Environment (Workspaces) KOBWENU** workspace opens. This workspace presents two workspace subpanels that provide directory lists for the user workspace data set (UKANWENU DD) and the runtime environment workspace data set (RKANWENU DD).

The screenshot shows a terminal window with the following content:

```
File Edit View Tools Navigate Help 28-03-2013 07:32:34
Auto Update : Off
Flex ID :
Sys ID :
Command ==>
KOBWENU Runtime Environment (Workspaces)
User Workspaces in TDZOST.BCN1.RTE1.UKANWENU No Members
RKANWENU: Runtime Workspaces
Rows 521 to 546 of 659
Name Conc# Size Created Changed Time ID
KOBSTART 0 42 2013/02/14 2013/02/14 16:03:22 HK0B701
KOBTAPPL 124 0 2011/05/14 2012/01/04 17:11:22 HK0B700
KOBTEMP 43 0 2011/07/09 2012/01/04 17:11:22 HK0B701
KOBTIME 43 0 2011/07/09 2012/01/04 17:11:22 HK0B701
KOBTKACT 51 0 2011/04/04 2012/01/04 17:11:22 HK0B700
KOBTRCIN 39 0 2011/10/01 2012/01/04 17:11:22 HK0B700
KOBTRCUT 40 0 2011/10/01 2012/01/04 17:11:22 HK0B700
KOBUSERD 76 0 2011/07/09 2012/01/04 17:11:22 HK0B700
KOBUSER S
KOBVARS 30 0 2011/05/14 2012/01/04 17:11:22 HK0B700
KOBWENU 129 0 2012/02/09 2013/03/13 17:11:22 MCRUM
KOBWINR 127 0 2011/05/14 2012/12/11 14:11:22 HK0B701
KOBWZQP
KOBWZQP SI 38 0 2012/11/09 2013/03/05 14:11:22 MCRUM
K0000#CCRR 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#CC 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#CVP 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#DAD 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#DAD0 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#DFSS 24 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#DFMV 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#DS 24 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#HDS 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#HVGR 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
K0000#LDCS 8 0 2012/04/03 2012/04/03 00:00:00 HK0000510
RTE/JCL Workspaces Thresholds Profiles Exit
Thursday 28 March 2013 03/024
```

Figure 128: Runtime Environment (Workspaces), locating the workspace member.

2. Enter the **Locate** command at the command line, specifying the workspace that you want to search for as an argument and press **Enter**. For example, if you enter **Locate KOBSTART**, the directory view positions similarly to [“Figure: Runtime Environment \(Workspaces\), locating the workspace member.” on page 945](#).

**Fastpath:** You can shorten the **Locate** command to **L**. For example, you can enter **L KOBSTART** to search for the KOBSTART workspace.

- Place the cursor in the input field of the workspace name that you want to clone and press **Enter**. For example, to select the KOBSTART workspace, place the cursor in the input field that precedes the workspace name and press **Enter**. The **Partitioned Dataset Member** (KOBPDS) view opens showing a view of the KOBSTART workspace content.
- Select **File > Save As** to clone the workspace that is being viewed. For example, to clone the KOBSTART workspace, place the cursor under **File** on the menu bar and press **Enter**. Then from the **File** menu, select option 4, **Save As** by typing a or 4 and pressing **Enter**.

**Fastpath:** You can fast path to **File > Save As** by entering **f . a** in the action line.



Figure 129: Cloning a workspace by using the **File > Save As** menu option.

When you press **Enter**, the **Member Save As** dialog box opens:



Figure 130: Cloning a workspace - the **Member Save As** dialog box

- Enter the workspace name that you want to use for the cloned workspace. If you are cloning a product provided workspace under the assumption that it is to supersede the product provided instance of the same workspace, the **Save As** name that you enter must be identical to the name of the product provided workspace, for example as shown in [“Figure: Cloning a workspace - the Member Save As dialog box”](#) on page 946. The saved workspace is written to the user workspace data set. The original product provided workspace is preserved intact in the runtime environment data set. When you press **Enter**, the **Save As** action is confirmed and you are returned to the **Partitioned Dataset Member** (KOBPDS) view.
- Press **PF3 (End)** to return to the **Runtime Environment (Workspaces) KOBWENUS** workspace.

## Result

The workspace directory view for the user workspace data set now lists the cloned workspace:



Figure 131: User workspace data set that shows a cloned workspace

**Note:** When you clone a product provided workspace, the cloned instance of the workspace is used by the enhanced 3270 user interface. Cloned or user customized workspaces are identified by an asterisk (\*), which is displayed after the workspace name:

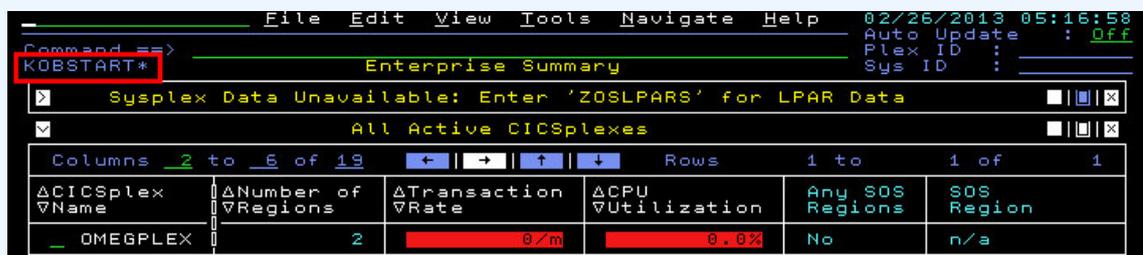


Figure 132: A cloned workspace is denoted by an asterisk character (\*) after the workspace name

## What to do next

When the workspace cloning is complete, the next step is to edit and test the workspace, customizing its contents to site requirements. Use a file editor such as the ISPF editor to edit the workspace.

## Related information

[Preparing for workspace cloning](#)

[Customization of product provided workspaces](#)

## Customization of product provided workspaces

Guidance on customizing cloned workspaces.

Before customizing a workspace, you must first clone it. For more information about cloning a workspace, see [“Cloning a workspace”](#) on page 943.

Use a file editor such as the ISPF editor to customize a workspace. Save the cloned workspace in the user workspace data set, that is, the data set pointed to by the enhanced 3270 user interface (enhanced 3270UI) started task JCL UKANWENU DD statement.

**Important:** Product provided workspaces rely on both the workspace content and supporting REXX code to control context and navigation. Customization changes must avoid modifications that might have unintended results; for example; loss of context.

The following examples are workspace customization actions that a user might want to perform.

- Change the order of columns that are displayed in a summary data subpanel.
- Change the columns that are displayed. For example, remove some columns in a summary subpanel, and eliminate some of the attribute values in a detailed data subpanel.
- Change the workspace header.
- Change the workspace default (on entry) cursor position.
- Change the workspace default sort columns.
- Change the statically defined columns in a summary subpanel.
- Change the Agent filter that is specified in a subpanel query.
- Add local Filters to a summary subpanel.
- Change the number or order of subpanels that are displayed in the workspace.
- Combine data from two or more input tables and generate output in a singular view.

You can achieve these types of customization by editing and changing workspace definition statements and associated keywords in the cloned workspace source. For more information, see [“Customizing a workspace” on page 950](#).

**Tip:** Consider the following things before you change workspace definitions or view the source definition for a specific workspace:

- The absence of workspace definitions statements and or associated keywords (modifiers) is usually an indication that defaults are being used. For example, in the DISPLAYCOLS statement, there is no requirement for the specification of the CAPTION or WIDTH keywords. These keywords would more likely be used when the defaults are not adequate or preferable.
- The syntax that is used in the workspace definition language is important. Keyword spelling, column name spelling, commas, spaces, quotation marks, parentheses, and other syntax cannot be ignored or excluded; for example, quotation marks and parentheses must be balanced. Although the enhanced 3270UI provides comprehensive parsing of the workspace source definitions statements, runtime errors and in some cases unexpected results might occur if the syntax is incorrect. For more information about the workspace definition language, see [“Workspace panel definitions” on page 1024](#).
- The workspace definition language specifications employ the internal column name to refer to a specific application product and table column/attribute. Taking note of the displayed workspace column order position along with the workspace DISPLAYCOLS definition (specified column order position) can be useful as a technique for correlating displayed columns with their corresponding internal column names.

**Remember:** When customizing product provided workspaces, when the changes are deployed for use by a wider audience, the changes affect all users of a given enhanced 3270UI address space. Consider the other users when customizations of this type are done. The customization must benefit all of your users.

## Related information

[Cloning a workspace](#)

## Modifying the initial workspace

By default, the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) is configured to specify the Enterprise Summary (KOBSTART) workspace as the initial workspace displayed after a user logs on. You can change which workspace is displayed when you first log on, or customize the Enterprise Summary workspace to better suit your needs.

### About this task

Customizing the initial workspace involves two tasks:

- Creating a custom definition for the workspace
- Modifying the user's logon profile to specify the custom definition

The definition of the Enterprise Summary workspace imbeds a subpanel for each the products that supports the enhanced 3270UI. The default imbed statements in the KOBSTART workspace definition are:

Names and descriptions of default imbeds in Enterprise Summary workspace

<i>Table 73: Default imbed statements in the Enterprise Summary (KOBSTART) workspace</i>	
<b>Imbed statement</b>	<b>Description</b>
IMBED=KM5STRTI	Imbed for OMEGAMON for z/OS
IMBED=KCPSTRTI	Imbed for OMEGAMON for CICS
IMBED=KGWSTRTI	Imbed for OMEGAMON for CICS Transaction Gateway
IMBED=KDPSTRTI	Imbed for OMEGAMON for Db2/PE on z/OS
IMBED=KIPSTRTI	Imbed for OMEGAMON for IMS on z/OS
IMBED=KMQSTRTI	Imbed for OMEGAMON for Messaging on z/OS
IMBED=KS3STRTI	Imbed for OMEGAMON for Storage on z/OS
IMBED=KN3STRTI	Imbed for OMEGAMON for Networks

Subpanels are displayed only for products that are installed. However, you might not want to see data for all of those products, or you might want to display additional subpanels. You can delete some of the imbedded subpanels and specify other subpanels that you want to imbed. Complete the following steps to customize the workspace definition.

### Procedure

1. Copy or clone the product-provided KOBSTART member and rename it as appropriate, for example ZOSFWS.  
Use the workspace viewing and cloning feature of the interface to complete this step. For more information about workspace viewing and cloning, see [“Workspace viewing and cloning” on page 943](#).
2. Copy or clone the product-provided KOBCUA member and rename it as appropriate: CUASITE for a site profile or user\_id for a user-specific profile.  
Use the workspace viewing and cloning feature of the interface to complete this step. For more information about workspace viewing and cloning, see [“Workspace viewing and cloning” on page 943](#).
3. Edit the copied instance to apply the required customization.  
For example, you might modify the list of imbeds to delete the KCPSTRTI, KGWSTRTI, KDPSTRTI, KIPSTRTI imbed statements. These changes create an initial workspace that contains data for only the OMEGAMON for z/OS, OMEGAMON for Storage, and OMEGAMON for Networks products.  
For more information about customizing workspaces, see [“Customization of product provided workspaces” on page 947](#)
4. Save your modified workspace.
5. Modify any appropriate logon profile members to specify the modified workspace definition as the initial workspace.  
In this example, you change the logon profile setting from FIRSTWS=KOBSTART to FIRSTWS=ZOSFWS.
6. Save your updated logon profile members.

### Result

When you log on to the enhanced 3270 user interface using any of the modified profiles, the ZOSFWS workspace is displayed.

## Customizing a workspace

Complete some preparation steps before customizing a workspace.

### Before you begin

Identify and clone the workspace to be customized. For more information about locating and cloning a workspace, see “[Browsing, locating and cloning a workspace](#)” on page 945. In the procedure that follows, the starting point is a cloned workspace. The workspace that is used as an example is the **ITM Situation Status & Message Log** (KOBSITEC) workspace. When you successfully clone a workspace, it is identified by an asterisk (\*), which is displayed after the workspace name, as shown in the following example:



Figure 133: A cloned workspace is denoted by an asterisk (\*) after the workspace name

### About this task

This task lists the preparation steps that you must complete each time that you want to customize a cloned workspace.

### Procedure

Preparation steps:

1. Go to the cloned workspace.  
For example, the **Situations Status and History** (KOBSITEC) workspace.
2. Go to the workspace source view by selecting **View > Workspace Source** from the workspace view.  
The contents of the workspace source, (KOBSITEC) in this example is displayed in the **Partitioned Dataset Member** (KOBPDSD) workspace view.



Figure 134: Workspace source view of the product provided *ITM Situation Status & Message Log* (KOB SITEC) workspace.

3. Start an ISPF file editor session in parallel to your enhanced 3270UI session. To start an ISPF editor session, use a TSO logon, then locate and edit the workspace to be customized from your user workspace data set.  
For example, the KOB SITEC workspace in the user workspace data set (*hilev.rtename.UKANWENU*).

Customization steps:

4. Choose and complete the customization that you want from the following choices:

Change a workspace and subpanel header	See <a href="#">“Changing a workspace and subpanel header” on page 951</a>
Change the order of displayed columns	See <a href="#">“Changing the order of displayed columns” on page 953</a>
Change a column caption and width	See <a href="#">“Changing a column caption and width” on page 954</a>
Remove a subpanel	See <a href="#">“Removing a subpanel” on page 956</a>
Adjust the number of filterable columns and filter location	See <a href="#">“Adjusting the filterable columns” on page 957</a>

## What to do next

For more information about other definition statements that can be used to customize workspaces, see [“Other workspace customization” on page 960](#).

## Related information

[Browsing, locating and cloning a workspace](#)

[Cloning a workspace](#)

## Changing a workspace and subpanel header

Customize a workspace by changing the workspace and subpanel headers.

## Before you begin

Follow the preparation steps that are detailed in [“Customizing a workspace” on page 950](#).

## Procedure

1. To change the workspace header statement, use the ISPF file editor session.  
For example, in the K0BSITEC workspace you can find the workspace header definition statement just after the <WORKSPACE> tag statement:

```
000014 /*****  
000015 <WORKSPACE>  
000016 HEADER='ITM Situation & Message log'
```

For example, you might change the header definition as follows:

```
000014 /*****  
000015 <WORKSPACE>  
000016 HEADER='Situation Status and History'
```

2. To change subpanel headers, use the ISPF file editor session.  
For example, in the K0BSITEC workspace, further on in the workspace source, you can find the first subpanel header definition statement:

```
000021  
000022 /*****  
000023 /*  
000024 /*          SUBPANEL 1  
000025 /*  
000026 /*****  
000027  
000028 <SUBPANEL>  
000029 TYPE=SUMMARY  
000030 HEADER='Current Situation Event status'  
000031 TOFROMHEADER=Y
```

For example, you might change the first subpanel header definition as follows:

```
000021  
000022 /*****  
000023 /*  
000024 /*          SUBPANEL 1  
000025 /*  
000026 /*****  
000027  
000028 <SUBPANEL>  
000029 TYPE=SUMMARY  
000030 HEADER='Current Situation Alerts'  
000031 TOFROMHEADER=Y
```

Further on in the example workspace source, you can find the second subpanel header definition statement:

```
000102  
000103 /*****  
000104 /***  
000105 /***          SUBPANEL 2 -  
000106 /***  
000107 /*****  
000108  
000109 <SUBPANEL>  
000110 TYPE=SUMMARY  
000111 HEADER='Situation Event Message Log'  
000112 TOFROMHEADER=Y
```

For example, you might change the second subpanel header definition as follows:

```
000102  
000103 /*****  
000104 /***  
000105 /***          SUBPANEL 2 -  
000106 /***  
000107 /*****  
000108  
000109 <SUBPANEL>  
000110 TYPE=SUMMARY  
000111 HEADER='Situation Alerts History'  
000112 TOFROMHEADER=Y
```

- Use the ISPF file editor session to save your workspace source changes.
- Press **PF3 (End)** in your enhanced 3270 user interface session to close the workspace source view. As the **PF3 (End)** action is processed, a refreshed view of the modified workspace is displayed, that is, the KOBSITEC workspace in this example:

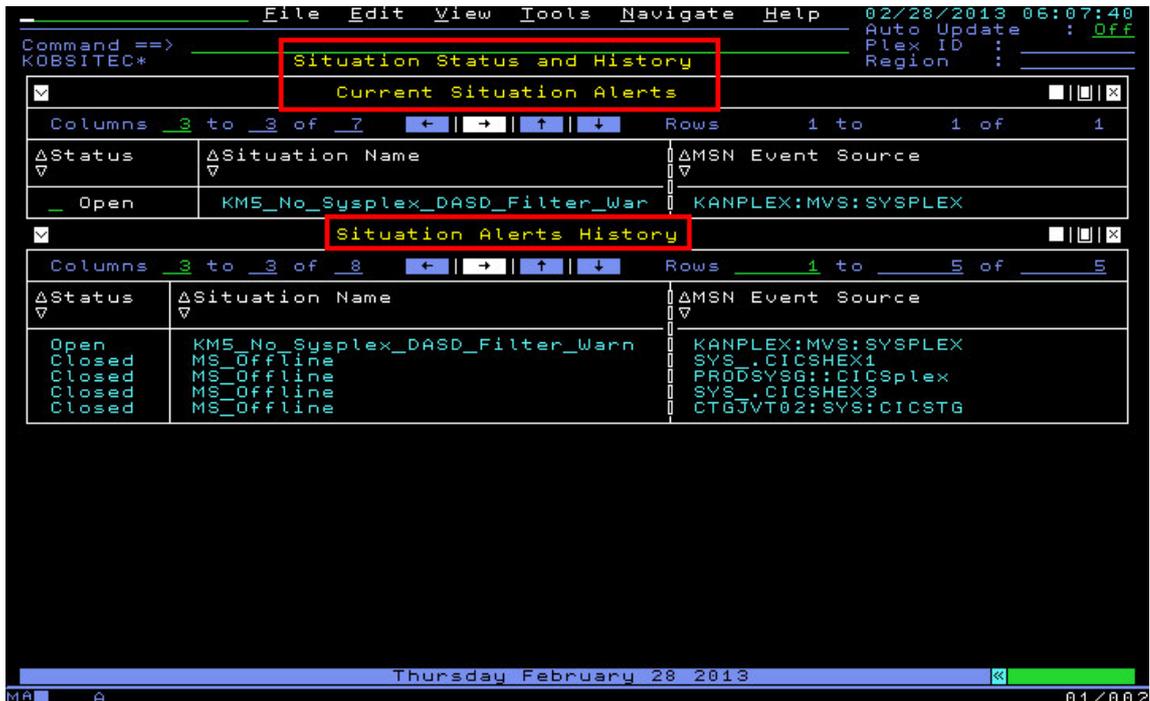


Figure 135: Customized workspace view that shows updated workspace and subpanel headings for the ITM Situation Status & Message Log (KOBSITEC) workspace

**Tip:** While the KOBSITEC workspace is refreshed when a **PF3 (End)** action is processed, a refresh might not occur for a different workspace. If a refresh does not occur, you can exit and reenter the modified workspace to see your changes.

## Changing the order of displayed columns

Customize a workspace by changing the order of the displayed columns.

### Before you begin

Complete workspace customization preparation. For more information about these preparation steps, see [“Customizing a workspace”](#) on page 950.

### Procedure

- Use the ISPF file editor session to locate the DISPLAYCOLS workspace definition statement. For example, in the KOBSITEC workspace, scroll beyond the DISPLAYCOLS statement to find the first <SUBPANEL> tag statement:

```
000079 DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
000080 SITNAME(CAPTION='Situation_Name',WIDTH=30),
000081 ORIGINNODE(CAPTION='MSN_Event_Source'),
000082 GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
000083 LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
000084 ATOMIZE(WIDTH=30,SCROLL),
000085 TYPE(CAPTION='Type')'
```

- Use the ISPF file editor session to change the order of the display columns. You might want to change the order of display columns. For example, to move the **MSN Event Source** header definition from the third column position to the second column position, adjust the DISPLAYCOLS statement as follows:

```

000079 DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
000080 ORIGINNODE(CAPTION='MSN_Event_Source'),
000081 SITNAME(CAPTION='Situation_Name',WIDTH=30),
000082 GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
000083 LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
000084 ATOMIZE(WIDTH=30,SCROLL),
000085 TYPE(CAPTION='Type')'

```

3. Use the ISPF file editor session to save your workspace source changes.
4. Press **PF3 (End)** in your enhanced 3270 user interface session to close the workspace source view. As the **PF3 (End)** action is processed, a refreshed view of the modified workspace is displayed, that is, the KOBSITEC workspace in this example:

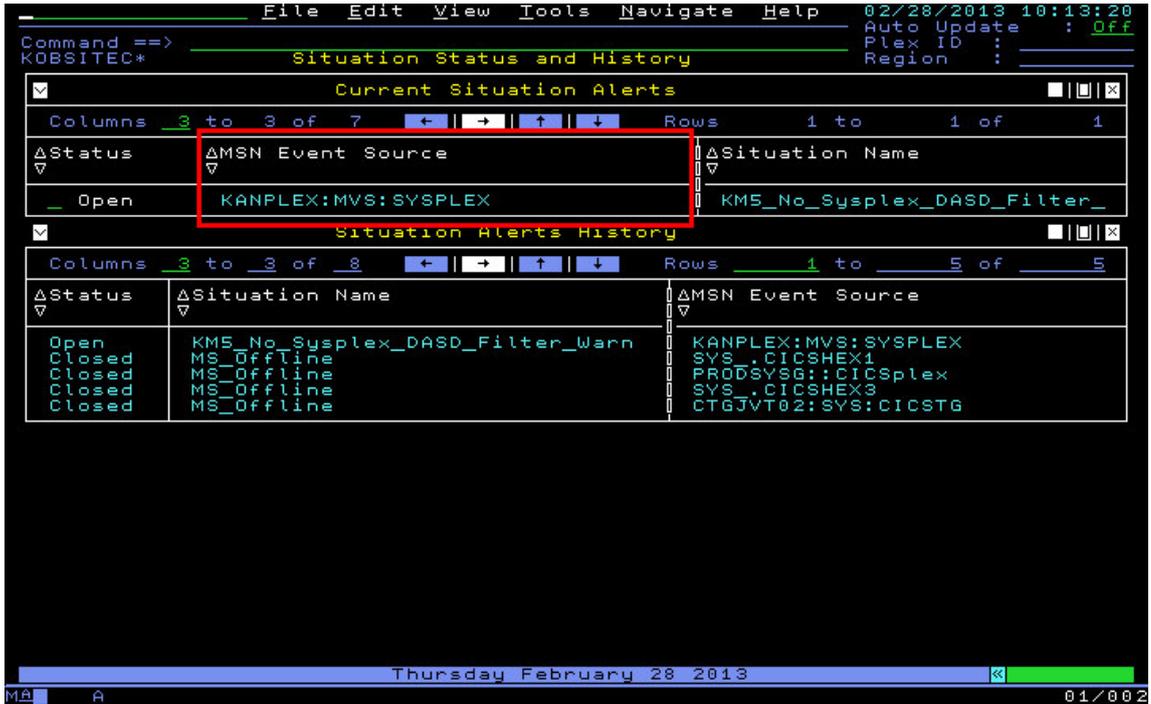


Figure 136: Customized workspace view that shows the **MSN Event Source** moved to the second column position

**Tip:** The KOBSITEC workspace is refreshed following a **PF3 (End)** action. A different workspace might not be refreshed following a **PF3 (End)** action. If a refresh does not occur, you can exit and reenter the modified workspace to see your changes.

## Changing a column caption and width

Customize a workspace by changing a column caption and width.

### Before you begin

Complete workspace customization preparation. For more information about preparation steps, see [“Customizing a workspace” on page 950](#).

### Procedure

1. Use the ISPF file editor session to locate the DISPLAYCOLS workspace definition statement. For example, scroll beyond the first <SUBPANEL> tag statement in the KOBSITEC workspace to find the DISPLAYCOLS statement:

```

000079 DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
000080 SITNAME(CAPTION='Situation_Name',WIDTH=30),
000081 ORIGINNODE(CAPTION='MSN_Event_Source'),
000082 GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
000083 LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
000084 ATOMIZE(WIDTH=30,SCROLL),
000085 TYPE(CAPTION='Type')'

```

2. Change a column heading caption name.

By default, the column heading caption is defined by the Object Definition Interchange (ODI) definition. However, it is possible to specify an override in the DISPLAYCOLS statement. For example, in the KOBSITEC workspace subpanel definition, to change the **Situation Name** caption to say Name, you can adjust the DISPLAYCOLS specification as follows:

```

000079 DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
000080 SITNAME(CAPTION='Name',WIDTH=30),
000081 ORIGINNODE(CAPTION='MSN_Event_Source'),
000082 GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
000083 LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
000084 ATOMIZE(WIDTH=30,SCROLL),
000085 TYPE(CAPTION='Type')'

```

3. Change a column width.

You might want to adjust the space on the screen that is available for a specific column. For example, in the modified KOBSITEC workspace subpanel definition, to change the Name column width, you might adjust the DISPLAYCOLS specification as follows:

```

000079 DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
000080 SITNAME(CAPTION='Name',WIDTH=32),
000081 ORIGINNODE(CAPTION='MSN_Event_Source'),
000082 GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
000083 LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
000084 ATOMIZE(WIDTH=30,SCROLL),
000085 TYPE(CAPTION='Type')'

```

4. Use the ISPF file editor session to save your workspace.
5. Press **PF3 (End)** in your enhanced 3270 user interface session to close the workspace source view. As the **PF3 (End)** action is processed, a refreshed view of the modified workspace is displayed, that is, the KOBSITEC workspace in this example:



Figure 137: Customized workspace view that shows a column with a modified caption and width

**Tip:** The KOBSITEC workspace is refreshed following a **PF3 (End)** action. A different workspace might not be refreshed following a **PF3 (End)** action. If a refresh does not occur, you can exit and reenter the modified workspace to see your changes.

## What to do next

In the example, the first caption change in the modified KOBSITEC workspace introduced an inconsistency between the first and second subpanel views because both panels contain a Situation Name column. You might want to apply the same changes to the second panel for consistency. You can apply the same changes to the second subpanel by scrolling down in the editor to the next DISPLAYCOLS statement and repeating the procedure.

## Removing a subpanel

You can customize a workspace to remove a workspace subpanel that is not of interest to you.

## Before you begin

Complete workspace customization preparation. For more information preparation steps, see [“Customizing a workspace” on page 950](#).

## About this task

For more information about subpanel start and end statements, see [“Number and order of workspace subpanels” on page 962](#). The following procedure details the removal of a subpanel from a workspace.

## Procedure

1. Use the ISPF file editor session to locate the second <SUBPANEL> workspace definition statement. For example, in the KOBSITEC workspace, scroll to the SUBPANEL 2 heading to find the second <SUBPANEL> statement:

```
000102
000103 /*****
000104 /***
000105 /***          SUBPANEL 2 - Message Log
000106 /***
000107 /*****
000108
000109 <SUBPANEL>
000110 TYPE=SUMMARY
000111 HEADER='Situation Alerts History'
000112 TOFROMHEADER=Y
000113 SCROLLBAR=Y
```

2. Add a <WORKSPACEEND> tag statement before the <SUBPANEL> tag statement. The <WORKSPACEEND> tag statement signifies the end of the workspace eliminating the following <SUBPANEL> definition:

```
000102
000103 /*****
000104 /***
000105 /***          SUBPANEL 2 - Message Log
000106 /***
000107 /*****
000108 <WORKSPACEEND>
000109 <SUBPANEL>
000110 TYPE=SUMMARY
000111 HEADER='Situation Alerts History'
000112 TOFROMHEADER=Y
000113 SCROLLBAR=Y
```

3. Use the ISPF file editor session to save your workspace source changes.
4. Press **PF3 (End)** in your enhanced 3270 user interface session to close the workspace source view. As the **PF3 (End)** action is processed, a refreshed view of the modified workspace is displayed, that is, the KOBSITEC workspace in this example:

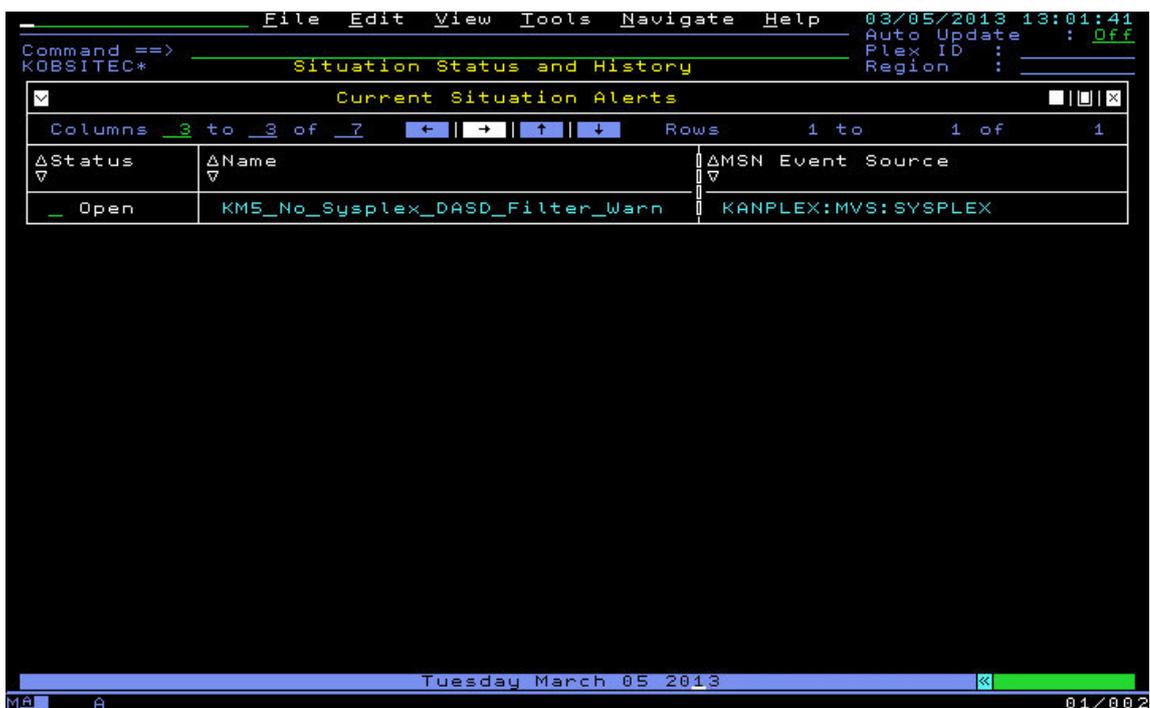


Figure 138: Customized workspace view that shows the second subpanel removed from the (KOB SITEC) workspace

**Tip:** The KOB SITEC workspace is refreshed following a **PF3 (End)** action. A different workspace might not be refreshed following a **PF3 (End)** action. If a refresh does not occur, you can exit and reenter the modified workspace to see your changes.

## Adjusting the filterable columns

Customize a workspace by adjusting the number of filterable columns and the filter location.

### Before you begin

Complete workspace customization preparation. For more information about preparation steps, see [“Customizing a workspace” on page 950](#).

### About this task

For more information about filterable columns and filter definitions, see [“Local or agent filter definitions” on page 961](#). The following procedure details how to adjust the number of filterable columns in a workspace. The procedure uses the **ITM Situation Status & Message Log (KOB SITEC)** workspace as an example.

### Procedure

1. Use the ISPF file editor session to locate the FILTERCOLS workspace definition statement. For example, in the KOB SITEC workspace scroll towards the end of the first subpanel definition to find the FILTERCOLS statement:

```
000084 ATOMIZE(WIDTH=30, SCROLL) ,
000085 TYPE(CAPTION='Type') '
000086
000087 FILTERCOLS=' SITNAME '
000088
000089 SORTCOLS=ALL
```

2. Modify the FILTERCOLS definition statement to add another filterable column. For example, in the KOB SITEC workspace, use the ISPF editor to make the following update:

```

000084 ATOMIZE(WIDTH=30, SCROLL),
000085 TYPE(CAPTION='Type')'
000086
000087 FILTERCOLS='SITNAME, ORIGINNODE'
000088
000089 SORTCOLS=ALL

```

- Optional: Add the FILTERWHERE=LOCAL statement to specify that filtering is locally applied. For example, in the KOBSITEC workspace, use the ISPF editor to make the following update:

```

000084 ATOMIZE(WIDTH=30, SCROLL),
000085 TYPE(CAPTION='Type')'
000086
000087 FILTERCOLS='SITNAME, ORIGINNODE'
000088 FILTERWHERE=LOCAL

```

- Use the ISPF file editor session to save your workspace source changes.
- Press **PF3 (End)** in your enhanced 3270 user interface session to close the workspace source view. As the **PF3 (End)** action is processed, a refreshed view of the modified workspace is displayed.

**Tip:** The KOBSITEC workspace is refreshed following a **PF3 (End)** action. A different workspace might not be refreshed following a **PF3 (End)** action. If a refresh does not occur, you can exit and reenter the modified workspace to see your changes.

- Press **PF4**, enter the FILTER command or click on the filter icon within the column header to start the filters dialog. The filters dialog pop-up, shows the filterable columns, as shown in this example:

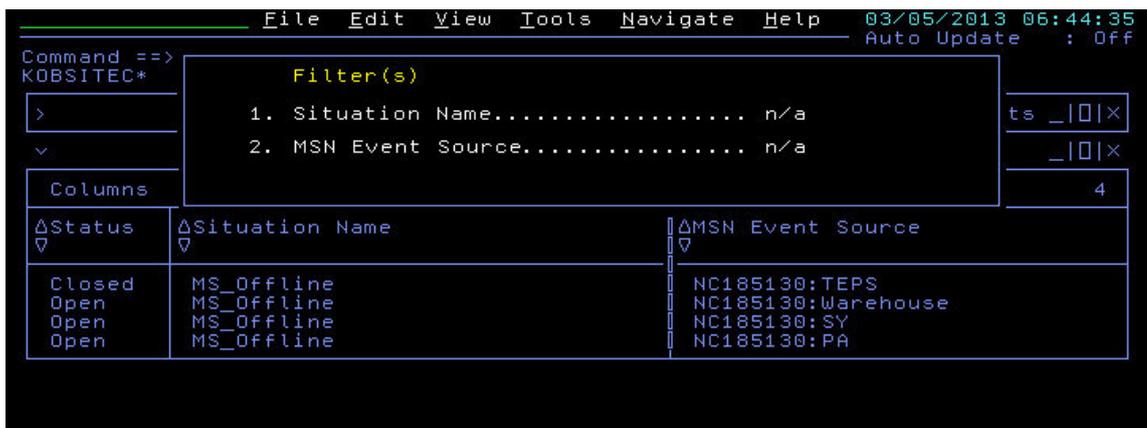


Figure 139: Filter dialog pop-up that shows the added filter column

## Joining multiple tables into a singular view

You can customize workspaces by combining data from two or more input tables to generate a new output table.

Combining data from several input tables is referred to as a relational join, and is a way of aggregating the rows and columns from two or more tables into a new table with a singular view. You might consider joining several tables into a new table to create a consolidated view of certain performance data, rather than viewing the data in multiple subpanels and workspaces.

You are able to join data from up to 15 input tables. Those tables can be from a single version of OMEGAMON or from any number of different OMEGAMON products. For example, you might combine data from one OMEGAMON for z/OS® table with data from one OMEGAMON for IMS™ table and display the result in a single table of your own design.

CICS Region Name	CPU Utilization	Transaction Rate	Maximum Tasks Percent	SOS	Stg. Violations last hour	Region's Worst Perf. Index	Worst Region Class Name	Service	Any Current WS Faults
CICSR42A	0.0%	0.7%	5%	No	0	0.00%	n/a		No
CICSR41A	0.0%	0.7%	5%	No	0	0.00%	n/a		No
CICSR42A	0.0%	0.7%	5%	No	0	100.0%	CTRANS		No
OMASR442	0.0%	6.4%	12%	No	0	0.00%	n/a		No

Figure 140: Sample table join that shows a workspace with two OMEGAMON for z/OS tables and a CICS table joined.

Detailed instructions on table join customization are located in the online help for your enhanced 3270UI session. Follow these steps to navigate to the Help panel for the KOBJOIN1 workspace, where the customization process is documented.

1. Navigate to the Help and Workspace Directory KOBHLDIR. See [Help and Workspace Directory](#) for more information on how to reach the KOBHLDIR workspace.
2. Expand the **New Features** branch.

Item	Description
- Help Info	Help for Enhanced 3270 UI
+ General	User Guide and Common Features
- New Features	Status Tree, Situations, and Joins
- Status Tree	Overview and details
- Joining Data	Joining multiple tables into a single view
+ Messages	Error messages: workspace or SYSPRINT
- Workspace Navigation	Navigate to OMEGAMON and 3270 UI Workspaces
+ Enterprise Status	3270 UI Enterprise Status overviews
+ OMEGAMON	OMEGAMON performance data
+ Enhanced 3270 UI	3270 UI Framework Workspaces

Figure 141: New Features

3. Drill down on the **Joining Data** row.
4. You arrive at the Help panel for the KOBJOIN1 workspace. Expand each branch to find step-by-step instructions on the customization process.

1. Table JOIN Overview

2. Steps to take

3. Input tables

You want to take several existing input tables and join them into a results table. The first step is to find the input tables that contain the data you need. You can find the tables you need by looking at existing workspaces on your 3270.

Select here to view available OMEGAMON tables

When you find the data you'd like to use, you can enter the 'v.s' command on the top left command line (v.s is View->Workspace Source). With that command you're taken to a display of the 'source code' for the workspace. Within this source code (a member of the RKANWENU dataset), you can find the QUERY='...' statements for the data you are interested in. The QUERY statements identify the application (KMS, for example) and the table (KM5MSUCAP, for example) that are used in the QUERY.

Continue the process of browsing for relevant data and write down the list of applications and tables that contain all the data you're interested in.

You should also note (copy and paste, for example) each of the QUERY statements that produce that data for your input tables. The QUERY statements consists of a SELECT keyword followed by column names and various conditional (WHERE) clauses.

Once you have the complete list of QUERY statements for all the input tables you need, copy those statements into a new workspace source member (a member in your UKANWENU PDS).

Query statements in a workspace look something like this:

```

QUERY="SELECT LPARCAPLIM,LPARGRPNAM,ORIGINNODE,PCTMSUCP,PCTTIMECAP,
ROLLAVG,TIMEPERIOD
FROM KMS.KM5MSUCAP
WHERE SYSTEM.PARMA('NODELIST','*MVS_SYSTEM',11)
AND RECTYPE = 1
ORDER BY PCTMSUCP DESC"

```

4. ODI Source (OSRC)

5. QUERYLOGIC

6. QUERYLOGIC simple

7. QUERYLOGIC join

8. JOINing several columns

9. QUERYLOGIC and REXX

Figure 142: KOBHLRTT workspace with **Input Tables** branch expanded.

**Note:** The comprehensive list of instructions for joining tables can only be found in the enhanced 3270UI Help Directory.

## Other workspace customization

Learn about other workspace customizations and related workspace definition parameters.

The following information explains some common workspace definition statements that can be used to customize product provided workspaces. For an example of a detailed procedure to customize a workspace, see [“Customizing a workspace” on page 950](#).

### The initial and refresh cursor position for workspaces

The initial (on-entry) workspace cursor position is specified by the `CURSOR=` workspace definition statement. For example, `CURSOR=HOME` specifies that the initial cursor location is in the menu bar command field.

The `CURSOREFRESH=` workspace definition statement determines the cursor position behavior when the workspace is refreshed or when you return to the workspace, for example, after you enter **PF3 (End)**. For example, `CURSOREFRESH=ASIS` specifies that the cursor position remains unchanged when you refresh or return to a workspace.

The possible values for the `CURSOR=` and `CURSOREFRESH=` statements are as follows:

#### HOME

Row 00, Column 1

#### COMMANDLINE

The cursor appears after the command-line prompt, **Command ==>**

#### SUBPANEL

The cursor appears in the first selectable field of the first subpanel.

#### ASIS

The cursor remains on the workspace wherever the user placed it.

### Statically defined columns

Statically defined columns remain static during lateral scroll operations. These columns are usually the primary identification columns for a specific summary subpanel data row. For example, in the case of the `KOBSITEC` workspace, the Status and Situation Name columns are defined as static. The statically defined columns are controlled by the `STATICCOLS=` subpanel definition statement. Thus `STATICCOLS=2` specifies that the two leftmost columns in a subpanel display are defined as static; that is, the first two columns that are specified in the subpanel `DISPLAYCOLS` statement as shown in the following excerpt from the `KOBSITEC` workspace definition:

```
STATICCOLS=2

DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
SITNAME(CAPTION='Situation_Name',WIDTH=30),
ORIGINNODE(CAPTION='MSN_Event_Source'),
GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
ATOMIZE(WIDTH=30,SCROLL),
TYPE(CAPTION='Type')
```

### Number of columns displayed

The columns that are displayed in a specific workspace are specified by the `DISPLAYCOLS=` workspace definition statement. To remove a column from the workspace display, remove its specification in the `DISPLAYCOLS` definition. To remove the Type column from the `KOBSITEC` workspace, remove the `TYPE(CAPTION='Type')` specification from the `DISPLAYCOLS` definition as shown in the example:

```
STATICCOLS=2

DISPLAYCOLS='DELTASTAT(CAPTION='Status',WIDTH=7),
SITNAME(CAPTION='Situation_Name',WIDTH=30),
ORIGINNODE(CAPTION='MSN_Event_Source'),
GBLTMSTMP(CAPTION='HUB_Event_Time',DATETIME),
LCLTMSTMP(CAPTION='Agent_Event_Time',DATETIME),
ATOMIZE(WIDTH=30,SCROLL)
```

**Important:** The closing quotation mark (') that follows the TYPE column specification is not dropped. It is moved to the end of the ATOMIZE column definition. The closing quotation mark signifies the end of the DISPLAYCOLS definition statement.

### Allotted subpanel row count

For workspaces that provide multiple subpanel displays, there might be cases where it is preferable to adjust the screen space. For example, you might modify the minimum number of rows that are allotted to a specific subpanel. This can be illustrated by using the KOBSITEC workspace as an example. The KOBSITEC workspace provides two subpanels, the first subpanel provides a list of *Open* situations, the second subpanel provides a situation alerts history list. As currently defined, if a user logs on to the interface with the 3270 model 5 emulation mode (27 rows), only the history (second) subpanel headers are displayed when the data rows in the first subpanel exceed five rows. The maximum rows that are allotted to a specific subpanel are defined by the subpanel `LINESnn=` parameter statements as shown in the following excerpt from the KOBSITEC workspace first subpanel definition:

```
LINES24=4  
LINES32=8  
LINES43=12  
LINES62=20  
LINES90=25
```

**Tip:** The *nn* in `LINESnn=` represents the maximum available screen lines for a specific 3270 terminal.

To change the default space that might be allotted to the first workspace subpanel, for example, where most enhanced 3270 user interface users are using low maximum line emulation modes (such as a 3270 model 2 with 24 available lines), you might adjust the `LINES24` definition to `LINES24=2`. This change reduces the screen space that is allotted to the first subpanel and frees up two lines for use by the second subpanel. Alternatively, if the second subpanel is used infrequently and you want more space for the first subpanel, the alternative adjustment might be applied; that is, adjust the `LINES24` definition to `LINES24=8`, allowing up to eight rows of detailed data to be viewed in the first subpanel. This example might be considered extreme. The enhanced 3270 user interface recommended minimum screen size is 43x80, for example, a 3270 model 4 with 43 available lines.

### Workspace sort columns

The workspace subpanel sortable columns are specified by the `SORTCOLS=` definition statement. Given that the sort indexes are constructed after row data is retrieved and before the workspace is rendered, the product provided workspaces employ discretionary use of this definition statement, especially in cases where the anticipated returned row set can produce many rows. The product provided workspaces are designed to anticipate the most common use cases.

If, after you use the enhanced 3270 user interface for some time, you find that more sortable columns will improve the usability of a specific workspace, you might consider expanding the `SORTCOLS=` definition. For example, for the KOBSITEC workspace, if the current `SORTCOLS=` definition is `SORTCOLS='SITNAME'`, to expand the definition to also include other subpanel columns such as, the MSN Event Source and HUB and Agent Event Time columns, you might change the definition to `SORTCOLS='SITNAME, ORIGINNODE, GBLTMSTMP, LCLTMSTMP'`.

The `SORTCOLS` definition statement must be defined with discretion, giving thought to potential loading costs. Although it is possible to define up to 30 `SORTCOLS` columns, or to define `SORTCOLS=ALL` to enable sorting on any subpanel column, this option is best avoided unless there is a certainty that the retrieved data comprises few data rows.

Note that the `SORTCOLS` specification can have limited use when a column display value is derived from an internal enumerated list, that is, where the display value is derived from the translation of an internal value. In this case, the sort index is produced from the internal column value. As a result, the column display values might seem to be grouped, but not necessarily in the expected display order.

### Local or agent filter definitions

The workspace subpanel filterable columns is specified by the `FILTERCOLS=` definition statement. The following considerations are for using the `FILTERCOLS` definition statement:

- `FILTERCOLS` specifications support the data result row set for each workspace subpanel that defines the `FILTERCOLS` statement.

- There might be cases where a workspace provides multiple subpanels that share a retrieved data row set, that is, a *reusable query*. In that case, the filters specification supports all subpanels that share the specific result row set.
- The FILTERCOLS workspace operates in conjunction with the FILTERWHERE= definition statement to specify where the filter is applied, either after the data is collected and returned to the enhanced 3270 user interface, or at the agent, during data collection and before the data is returned to the enhanced 3270 user interface. The default FILTERWHERE= definition is FILTERWHERE=AGENT, that is, filter at the agent.
- When a FILTERCOLS statement is defined along with FILTERWHERE=AGENT (the default), the filters are applied at the agent. As a result, a FILTERCOLS statement with FILTERWHERE=AGENT does affect the load that is incurred for data retrieval. Assuming the filters are effective, they reduce the amount of data that is collected and returned to the enhanced 3270 user interface.
- The FILTERCOLS statement must be used with discretion as they are not always effective. For example, they are most usable with column values that contain text strings. However, their use is limited for a numeric column value or a column value that is derived from an internal enumerated list, that is, where the display value is derived from the translation of an internal value.

For more information about adjusting the filterable columns, see [“Adjusting the filterable columns” on page 957](#).

**Remember:** There are other workspace definition statements, for example, FILTERVIEW(S) and FILTERSTRIP, that are related to filters that can be specified in the product provided workspaces. Filter definition statements can be complex and changes to product-provided workspace filter definitions must be applied with discretion to avoid unintended side-effects.

#### Number and order of workspace subpanels

The workspace subpanel definition *start* is specified by the presence of a subpanel start <SUBPANEL> tag statement. The subpanel definition end is specified in one of the following ways:

1. An implicit end that is defined by a <WORKSPACEEND> tag
2. An explicit end that is defined by a <SUBPANELEND> tag
3. An implicit end that is defined by a subsequent <SUBPANEL> tag that signifies the start of another subpanel

**Remember:** The <WORKSPACEEND> tag signifies the end of the workspace definition.

For more information about removing a subpanel, see [“Removing a subpanel” on page 956](#)

The following considerations are about the subject of removing and or reordering workspace subpanels:

- Given that the subpanel definition boundaries are defined by the <SUBPANEL> and <SUBPANELEND> tag statements or by an implicit end of subpanel, you can make a subpanel order change by moving a block of all lines that define a specific subpanel from one location in the workspace definition to another location.

**Remember:** For product provided workspaces, the order of workspaces can matter. For example, the retrieved data result set for workspace A might be shared by workspace B. Another example is when workspace B depends on a value that is set by workspace A. Another case, is for a *silent* workspace, that is, a workspace that is not displayed but contributes to the navigation scenario. For example, a *silent* workspace can run intermediate steps that are required for a subsequent process. Take these considerations into account when customizing a workspace that for example, removes, adds, or reorders subpanels within a specific workspace.

**Workspace panel definitions - reference** For more information about workspace definition statements that might have content and order implications, see [“Workspace panel definitions” on page 1024](#)

## Customizing status indicators

Columns in the enhanced 3270 user interface workspaces use colors to highlight the status of data based on thresholding criteria. If no criteria are set for a status column, the column is displayed in the default *status unknown* color.

You can change the colors that are associated with a particular status or range in the interface profile, by setting the values for the CUASTATUS keywords.

The CUASTATUS keywords control the color assignments for attributes for which thresholds are defined. When thresholds are defined, one of six states or one of nine range values can be assigned to the item. The state that is assigned to the item when the threshold is reached is reflected in a status indicator. The following colors can be assigned as status indicators: red, white, blue, green, yellow, turquoise, and pink.

The SHOWOKGOOD keyword controls the display of a status indicator for the OKGOOD state. By default, the value for this keyword is NO to minimize the number of colors in the workspace. However, in some workspaces, you might prefer to display the status.

The possible states and ranges, with default values, are listed here:

```
<CUASTATUS>
OKGOOD=GREEN
WARNING=YELLOW
CRITICAL=RED
IDLE=BLUE
HIGHLIGHT=TURQUOISE
UNKNOWN=BLUE

SHOWOKGOOD=NO
RANGE1=GREEN
RANGE2=GREEN
RANGE3=GREEN
RANGE4=YELLOW
RANGE5=YELLOW
RANGE6=YELLOW
RANGE7=RED
RANGE8=RED
RANGE9=RED
```

## Modifying predefined thresholds

Workspaces reflect the status of data on the basis of threshold criteria. Each product that supports the enhanced 3270 user interface provides predefined thresholds. You can modify these thresholds to more accurately reflect your site and user criteria.

## Preparing for threshold member cloning

The OMEGAMON enhanced 3270 user interface provides the capability to clone threshold members. Before you can clone a threshold member, you must prepare by performing administrative steps.

### Before you begin

Threshold cloning can be used to customize the standard threshold members that are delivered with the enhanced 3270 user interface.

The cloning process copies a standard product-provided threshold member from a configuration runtime environment data set to a user threshold member data set. The runtime environment data set is a read-only data set; the user threshold member data set is a writeable data set. The user that wants to clone a threshold member must have the authority to create new members in the user threshold member data set. The default user threshold member data set name is *<hilev>.<rtename>.RKANPARU*.

### About this task

In preparation for threshold member cloning by an enhanced 3270 user interface user, complete the following administrative steps.

### Procedure

1. Ensure that the user who wants to clone a threshold member has the required authority. The user must have the authority to create new members in the user threshold member data set. The default user threshold member data set name is `<hilev>.<rtename>.RKANPARU`.

**Note:** For security reasons, you might not be able to grant users write or update authorization to the `<hilev>.<rtename>.RKANPARU` data set. In that case, complete the following steps:

- a. Create an alternative data set with attributes that match the `<hilev>.<rtename>.RKANPARU` data set attributes.
- b. Change the enhanced 3270 user interface started task JCL to include the alternative data set in the UKANPAR DD statement data set concatenation.
- c. Grant users authorization to this data set.
- d. Create the `user ID` custom threshold members in this data set.

2. Ensure that the user threshold member data set is the first data set that is specified in the RKANPAR DD statement. The user threshold member data set is the data set that is pointed to by the enhanced 3270 user interface started task JCL RKANPAR DD statement. If you ensure that it is the first data set, threshold member testing is facilitated when customization changes are applied.

**Important:** Be sure that you specify the same `<hilev>.<rtename>.RKANPARU` or alternative data set first in both the UKANPAR DD and RKANPAR DD statements.

3. Minimize potential disruptions to other enhanced 3270 user interface users. Because the cloning and customization process modifies product provided thresholds, it must be done in a configuration that is not disruptive to ongoing normal usage of the enhanced 3270 user interface. For example, a separate enhanced 3270 user interface address space with a unique instance of the user threshold member data set might be used during the customization and testing process. After the customization and testing, the changes might be deployed to a shared development or production configuration by copying the customized threshold members into a corresponding data set that is specified in the shared development or production configuration enhanced 3270 user interface started task JCL.

## Cloning thresholds

Use the **Configuration** workspace to make a copy of a threshold member and save it to a user-defined thresholds data set.

## Before you begin

You must complete some administrative steps before a threshold member is cloned. For more information about these steps, see [“Preparing for threshold member cloning” on page 963](#).

## Procedure

1. Identify the threshold member that you want to clone.
2. Go to the **Runtime Environment (Configuration)** workspace to browse the available profiles. There are a number of ways you can go to the **Runtime Environment (Configuration)** workspace:
  - From the menu bar, select **Tools > Runtime Environment**. The workspace opens. Then, move your cursor over the **Thresholds** button and press **Enter**.
  - Move your cursor over the **RTE** icon in the drawer and press **Enter**. The **Runtime Environment** workspace opens. Then, move your cursor over the **Thresholds** button and press **Enter**.

The **Runtime Environment** workspace presents two workspace subpanels that provide directory lists for the user threshold member data set (UKANPAR DD) and the runtime environment profiles data set (RKANPAR DD).



Figure 143: Runtime Environment (Configuration), locating the threshold member.

- On the command line, enter the **Locate** command. Specify the threshold member name that you want to search for as an argument and press **Enter**.  
The directory view is positioned in the context of the threshold member name that you entered. The **Locate** command can be shortened to **L**. For example, if you enter **L KM5THRSH** on the command line and press **Enter**, the view is positioned similarly to “[Figure: Runtime Environment \(Configuration\), locating the threshold member.](#)” on page 965
- Place the cursor in the input field of the profile name that you want to clone and press **Enter**.  
For example, to select the **KM5THRSH** profile, place the cursor in the input field that precedes the profile name and press **Enter**.  
The **Partitioned Dataset Member (KOBPDSD)** view opens showing a view of the **KM5THRSH** profile content.
- To clone the threshold member that is being viewed, select **File > Save As**.  
For example, to clone the **KM5THRSH** profile that is being viewed in the previous step, place the cursor under **File** on the menu bar and press **Enter**. Then, from the **File** menu select option 4, **Save As** by typing a or 4 and pressing **Enter**.

**Fastpath:** You can fast path to **File > Save As** by entering **f . a** in the action line.



Figure 144: Cloning a threshold member by using the File > Save As menu option.

When you press **Enter**, the **Member Save As** dialog box opens:



Figure 145: Cloning a threshold member - the *Member Save As* dialog box.

6. Enter the threshold member name that you want to use for the cloned threshold member. If you are cloning a product-provided threshold member to supersede the product provided instance of the same workspace, the **Save As** name that you enter must be identical to the name of the product provided-threshold member, as shown in “Figure: Cloning a threshold member - the Member Save As dialog box.” on page 966. The saved threshold member is written to the user threshold data set. The original product-provided threshold member is preserved intact in the runtime environment data set. When you press **Enter**, the **Save As** action is confirmed and you are returned to the **Partitioned Dataset Member** (KOBPDSD) view.
7. Press **PF3 (End)** to return to the **Runtime Environment (Configuration) KOBPROFS** workspace.

## Result

The profile directory view for the user profile data set now lists the cloned profile, as shown in the following example:

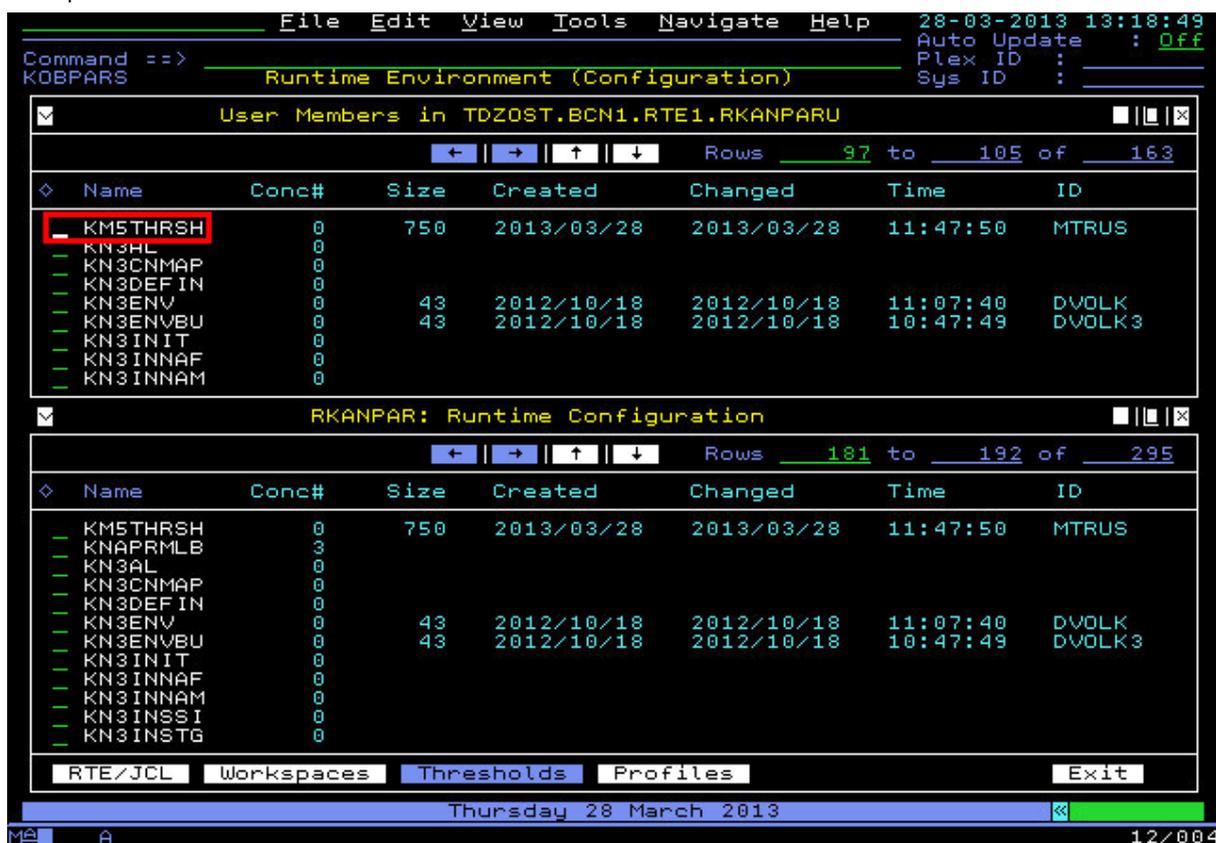


Figure 146: User threshold data set that shows a cloned profile

## What to do next

When the threshold member cloning is complete, edit and test the threshold member, customizing its contents to user requirements. To do this use a file editor such as the ISPF editor.

## Customizing thresholds

You can customize threshold criteria by user, by site, or by product.

### Before you begin

Workspaces reflect the status of data on the basis of threshold criteria. Each product that supports the enhanced 3270 user interface provides predefined thresholds. You can customize these thresholds to more accurately reflect your site and user criteria.

Before you begin customization, review the following topics:

- [“Preparing for threshold member cloning” on page 963](#)
- [“Cloning thresholds” on page 964](#)
- [“Syntax for threshold specification” on page 969](#)

### About this task

This task describes how to create and refresh customized threshold definitions using the enhanced 3270 user interface.

Threshold definitions are categorized as follows:

#### User-specific

User-specific thresholds affect only a single user. The customized user-specific thresholds are defined in a member named *user\_id*, which is the TSO or SAF user ID of the user.

To customize user-specific thresholds, you must create the *user\_id* member and include only the changes that you want to make. Ideally, member *user\_id* contains only the threshold overrides that are specific to the user and is not intended to include all threshold definitions.

If you use member *user\_id* for custom thresholds, you must have a user profile for the same ID in the UKOBDATF data set.

#### Site-wide

Site-wide thresholds affect all users and all products in the environment. The customized site-wide thresholds are defined in a member named CUASITE.

To customize site-wide thresholds, you must create the CUASITE member and include only the changes that you want to make. Ideally, member CUASITE contains only the site-wide threshold overrides and is not intended to include all threshold definitions.

**Note:** Member IBMSITE contains site-wide, product-provided threshold definitions. Member IBMSITE is used only if member CUASITE is not found.

#### Product-specific

Product-specific thresholds affect all users of a specific product. Each product provides predefined threshold definitions in member *Kpp*THRSH of data set TKANPAR, where *pp* is the product code. For example, OMEGAMON for CICS has member KCPTHRS, and OMEGAMON for z/OS has member KM5THRSH.

To customize product-specific thresholds, you must create a copy of member *Kpp*THRSH that is a complete copy of the original predefined threshold member. You then update this copy with your changes, and it is used in place of the original predefined threshold member.

Thresholds are applied in the following order: *user\_id*, CUASITE (or IBMSITE), *Kpp*THRSH.

**Note:** The customization of user-specific and site-wide thresholds requires the use of members named *user\_id* and CUASITE, respectively; the default user-threshold data set is `<hilev>.<rtename>.RKANPARU`. The enhanced 3270 user interface user profiles and site-customized profiles also use members named *user\_id* and CUASITE, respectively; the profile members exist in the default user-profile data set `<hilev>.<rtename>.UKOBDATF`.

To determine the threshold or thresholds that apply to each workspace and subpanel, for each product with thresholds that you want to change, check the *Kpp*THRSH member for comments similar to those in the following screen capture:

```

000009 *****
000010 * TABLE      : KCPPLX                               *
000011 *  *
000012 * PANEL ID: KCPPLXS - ENTERPRISE CICSplex SUMMARY *
000013 * SUBPANEL: 1 - ALL ACTIVE CICSplexES             *
000014 *****
000015 IF ( OMCICS.KCPPLX.TRANRATE      GT 1000/MIN      OR
000016      OMCICS.KCPPLX.TRANRATE      LT 100/MIN
000017      )
000018 THEN DO
000019      STATUS ( CRITICAL 9 )
000020 ENDDO
000021 IF ( OMCICS.KCPPLX.TRANRATE      EQ 900/MIN<>1000/MIN      OR
000022      OMCICS.KCPPLX.TRANRATE      EQ 100/MIN<>300/MIN

```

**Note:** There is no runtime validation of threshold syntax. If you customize thresholds and they are failing, check the enhanced 3270 user interface address space SYSPRINT log for errors.

After you have completed your customizations, you must refresh the threshold definitions in your environment. An administrator can dynamically refresh the site-wide and product-specific thresholds for all users using the MVS MODIFY command **THRESHREFRESH**; for any users that are logged on to the enhanced 3270 user interface, these changes take effect immediately and automatically. If you make any user-specific threshold customizations and are logged on to the enhanced 3270 user interface, you must use the **Threshold Refresh** option in the interface for the changes to take effect; this option also refreshes the site-wide and product-specific thresholds.

Complete the steps in the following procedure to customize and refresh your threshold definitions.

### Procedure

1. Locate and clone the threshold member or members that contain the threshold or thresholds that you want to modify. Product-specific threshold members containing predefined thresholds are named *Kpp*THRSH, where *pp* is the product code, in data set TKANPAR.

**Note:** For details about cloning members in the enhanced 3270 user interface, see [“Cloning thresholds” on page 964](#).

Use one or more of the following choices when creating cloned threshold members:

- Create a cloned member named *user\_id* for user-level thresholds. The *user\_id* member must include only the subset of thresholds that you want to modify for a specific user. If you use *user\_id* for the custom thresholds, you must have a user profile for the same ID in the UKOBDATF data set.
  - Create a cloned member named CUASITE for site-wide thresholds. The CUASITE member must include only the thresholds that you want to modify on a site-wide basis.
  - Create a cloned member named *Kpp*THRSH to modify product-specific thresholds. This *Kpp*THRSH member must be a complete copy of the original predefined threshold of the same name.
2. Edit the new threshold member to change threshold definitions. Use a file editor such as the ISPF editor to do this.

**Note:** For details about threshold syntax, see [“Syntax for threshold specification” on page 969](#).

3. Refresh the threshold definitions using the following options:
  - To refresh all threshold definitions (including user-specific thresholds), from the **Tools** menu in the enhanced 3270 user interface, select option 4, **Threshold Refresh**. All threshold definitions (customized and predefined) take effect immediately.

- To refresh site-wide and product-specific thresholds for all users, you can issue the following operator command:

```
/F ui_stc_name,THRESHREFRESH
```

where *ui\_stc\_name* is the name of the enhanced 3270 user interface started task. The site-wide and product-specific threshold changes take effect immediately and automatically for all users.

**Note:** The MVS MODIFY command **THRESHREFRESH** does not refresh user-specific thresholds. To refresh user-specific thresholds, you must use the **Threshold Refresh** option if you are logged on to enhanced 3270 user interface, or log off and log on.

## Disabling thresholds

Disable threshold specifications to eliminate status indicators but leave the unmodified threshold specification in place.

## Procedure

- To disable a threshold, edit the definition to specify STATUS(NOSTATE NORANGE). The evaluation still takes place but no data is highlighted in the workspace if the threshold criteria are met.

## Syntax for threshold specification

Use the syntax, values, and parameters described here to modify predefined thresholds.

Specification of thresholds uses the following syntax:

```
IF ( APPL.TABLE.COLUMN [EQ] [(+/-) num_value
                        =
                        NE
                        !=
                        GT
                        >
                        LT
                        <
                        GE
                        >=
                        LE
                        <=] ) [AND
                        OR] .....

THEN DO
    STATUS ( [GOOD
            WARNING
            CRITICAL
            IDLE
            HIGHLIGHT
            NOSTATE]
           [numeric value 0 – 9
            NORANGE] )

ENDDO
```

**Parameters** Each threshold specification consists of six required elements and three optional elements that are used when a complex threshold is specified:

### IF keyword

This keyword indicates the beginning of the threshold specification. Internal parsing considers all text between IF statements as a threshold specification. Only the first column in the IF statement is statused if it evaluates positively.

### Left parenthesis – (

An optional left parenthesis is used to help group connected thresholds in a complex threshold specification. Specification of the left parenthesis is optional, but if specified it is treated based on the

normal rules of operator precedence. That is, the highest level of precedence among parentheses and AND and OR operators. Each left parenthesis must be matched in the complex threshold specification by a corresponding right parenthesis or errors will be flagged during parsing.

**Note:** This parenthesis MUST be preceded and succeeded by at least one blank.

#### **application\_name.table\_name.column\_name**

This triplet must follow the IF keyword with each of the three components delimited by a period. The triplet must be contiguous, that is, must contain no embedded blanks.

#### **Comparator**

This 1-2 byte specification must follow the *application.table\_name.column.name* triplet. Valid comparators are:

**EQ**

compare equal

=

compare equal

**NE**

compare not equal

!=

compare not equal

**GT**

compare greater than

>

compare greater than

**LT**

compare less than

<

compare less than

**GE**

compare greater than or equal

>=

compare greater than or equal

**LE**

compare less than or equal

<=

compare less than or equal

#### **Comparison value or range of values**

This value must follow the comparator with the following formats supported:

- The value is considered a string if enclosed by double-quotes. Up to 70 characters may be specified.

**Note:** If a comparator other than EQ or “=” is used against a string the assumption is that a numeric string value is being thresholded. Currently, the UI data value and the threshold value are right-justified before comparison in these situations. This will provide expected threshold comparison results for numeric values that are specified with the same number of decimal places, scaling units but no parsing of the string is attempted in the evaluation to “normalize” the strings.

- Decimal integer, preceded by an optional sign character (+ or -), in the range  $-2^{63} + 1$  through  $2^{63} - 1$ , that is, -9,223,372,036,854,775,807 to +9,223,372,036,854,775,807. A decimal point may be inserted in any position, including as first or last in the value: that is, 1234. and .1234 are valid.
- Hexadecimal value in the range 0x8000000000000000 through 0x7FFFFFFFFFFFFFFF. After the 0x prefix, 1 – 16 hexadecimal digits can be specified; for example, 0x3F is valid.
- Optionally, a range of values may be specified using a <> symbol immediately after and contiguous to the 1st decimal or hexadecimal value. The second, upper value in the range must follow the same specification rules as the first value in the range though a mixture of decimal and hexadecimal values can be specified if desired. The second value must immediately and contiguously follow the range symbol.

**Note:** The use of the <> symbol may be replaced by a compound IF statement such as IF (a.b.c >= value1 AND a.b.c <= value2).

- A suffix specifying the units that apply to the numeric value(s) can optionally be specified. The unit characters must immediately follow, and be contiguous with, the numeric value they apply to. Valid unit specifications are:

**K**

scales the numeric value by a factor of 1024

**M**

scales the numeric value by a factor of 1024\*1024

**G**

scales the numeric value by a factor of 1024\*1024\*1024

**T**

scales the numeric value by a factor of 1024\*1024\*1024\*1024

**P**

scales the numeric value by a factor of 1024\*1024\*1024\*1024\*1024

**E**

scales the numeric value by a factor of 1024\*1024\*1024\*1024\*1024\*1024

**ms**

milliseconds, scales the numeric value to seconds by a factor of 1000

**csec**

centiseconds, scales the numeric value to seconds by a factor of 100

**sec**

seconds, no scaling

**/sec**

units per second, scales to rate per hour internally (\*3600)

**/min**

units per minute, scales to rate per hour internally (\*60)

**/hr**

units per hour, no scaling

**%**

percentage, no scaling

**Right parenthesis – )**

An optional right parenthesis is used to help group connected thresholds in a complex threshold specification. Specification of the right parenthesis is optional but if specified will be treated based on the normal rules of operator precedence. That is, the highest level of precedence amongst parentheses and AND and OR operators. Each right parenthesis must be matched in the complex threshold specification by a corresponding left parenthesis or errors will be flagged during parsing.

**Note:** This parenthesis MUST be preceded and succeeded by at least one blank.

### Connector AND and OR keywords

The connector between any two individual thresholds, or parenthesized groups of thresholds, must be an AND or an OR keyword. If both are used in a complex threshold, normal rules of precedence and associativity apply. That is, AND has higher precedence than OR if no parentheses are used or both connectors are contained within a single left and right parentheses pair. Associativity is left to right.

### THEN DO keywords

THEN DO must be specified after the threshold IF statements with a corresponding terminating ENDDO keyword. The THEN DO and ENDDO keywords are specified before and after one or more of the STATUS, ZOOMDEST or HELPDEST keywords and keyword values.

### STATUS keyword

STATUS is an optional keyword that can follow the comparison DO THEN keywords.

### (status\_state, status\_range)

This is a parenthesized, space-delimited pair of two keyword parameters that designate one or two statuses for interpretation by the user interface. Both designation types must be specified. Specific keywords indicating that one or more of the status designations does not apply to the current threshold (NOSTATE or NORANGE) are used in place of an actual value. At least one blank must be specified between the STATUS keyword and the left parenthesis.

**Note:** The status\_state value takes precedence over the status\_range specified if both are specified.

- status\_state sets the state to be interpreted by the user interface. Valid specifications are:
  - GOOD
  - WARNING
  - CRITICAL
  - IDLE
  - NOSTATE
- status\_range sets a value in the range 0 through 9 (0 is equivalent to the NORANGE keyword) to augment the column data in the user interface subpanel. Valid specifications are:
  - Numeric value in the range 0 through 9
  - NORANGE

### ENDDO keywords

ENDDO must be specified after the threshold STATUS statements with a corresponding initiating THEN DO keyword pair.

### Acceptable formats

#### Hexadecimal

0xH - 0xHHHHHHHHHHHHHHHHHH

0XH - 0XHHHHHHHHHHHHHHHHHH

1-16 hexadecimal digits

#### Decimal

(+/-)(.)nnnnnnnnnnnnnnnnnn - (+/-)nnnnnnnnnnnnnnnnnn(.)

1-19 decimal digits with decimal point in any position including 1st or last character position

**Scaling suffix**

(1024) K (kilobytes), M (megabytes), G (gigabytes), T (terabytes), P (petabytes), E (exabytes)

**Percentage**

%

**Time suffix**

ms, csec, sec

**Rate**

/sec, /min, /hr

**String**

1-70 characters enclosed by double quotes

## Administration

The OMEGAMON enhanced 3270 user interface provides workspaces to help administrators to view and customize the interface and to validate hub monitoring server connections.

The following workspaces assist administrators:

- Runtime Environment (RTE) viewing
- Workspace source viewing
- Profile customization
- Hub connectivity administration

### Runtime environment viewing

Use the **Runtime Environment** workspace to view the Runtime environment and its partitioned data set members.

#### Procedure

1. Go to the **Runtime Environment** workspace to view the Runtime environment.  
There are a number of ways you can go to the **Runtime Environment** workspace:
  - Select **Tools > Runtime Environment**. Do this action by placing the cursor under **Tools** on the menu bar and pressing **Enter**. Then, from the **File** menu select option 8.
  - Move your cursor over the **RTE** icon in the drawer and press **Enter**.

The **Runtime Environment KOBJCLS** workspace opens. The workspace presents a lists of data sets in the Runtime JCL.

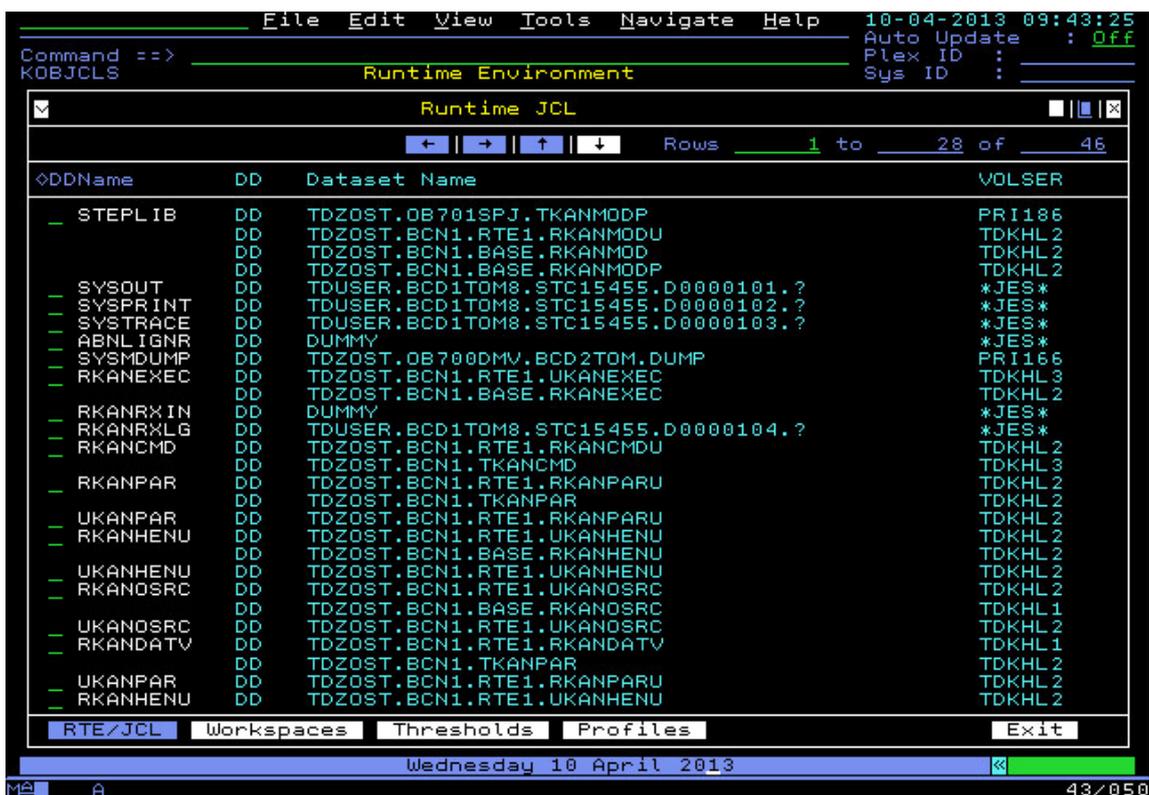


Figure 147: Runtime Environment workspace

Use the scrolling arrows or the PF7 and PF8 keys to scroll through the list of available data sets.

- Optional: Place your cursor on the input field before a data set, type **i** and press **Enter** to see more information about a data set.

The **Data Set Information** workspace opens and shows you information about the data set, as shown in the following example:

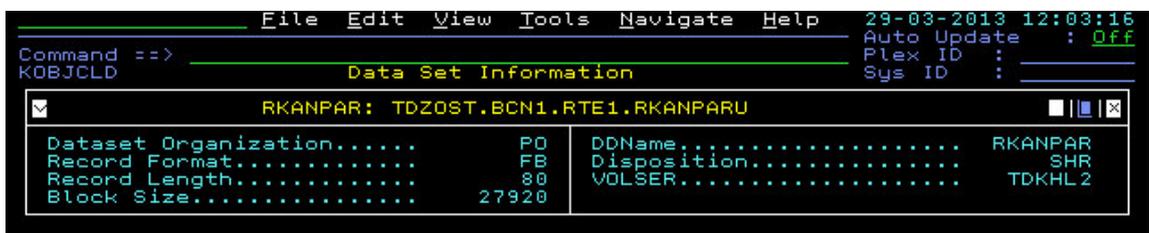


Figure 148: Data Set Information workspace

- Optional: Place your cursor on the input field before a data set name and press **Enter** to browse the members of a data set.

The **Partitioned Dataset Summary** workspace opens, as shown in the following example:



Figure 149: Partitioned Dataset Summary workspace

**Restriction:** JES data sets are listed in the **Runtime Environment** workspace but cannot be browsed.

- Optional: Place your cursor on the input field before a data set member name and press **Enter** to view the data set source.
- Press **PF3 (End)** until you return to the **Runtime Environment** workspace.
- Use the lateral navigation buttons on the **Runtime Environment** workspace to go to workspaces that show views of both user and runtime data sets for workspaces, profiles, and thresholds.



Figure 150: Lateral navigation push-buttons.

**Tip:** The **Exit** button returns you to your logon workspace.

## Viewing a workspace source

Use a menu selection to view the source for a workspace.

### Procedure

- Go to the workspace whose source you want to view.
- Select **View > Workspace Source**  
The **Partitioned Dataset Member (K0BPDSD)** view opens showing a view of the workspace source. Use the function keys or the cursor sensitive arrow controls to scroll through the source view.

### What to do next

If you want to modify the workspace source, you can first clone (make a copy) the workspace and then use a file editor such as the ISPF editor to edit the cloned workspace. For more information about cloning and customization of workspaces, see [“Workspace viewing and cloning” on page 943](#) and [“Customization of product provided workspaces” on page 947](#).

## Customizing the interface

The appearance of various components of the interface are controlled by an *interface profile*. The interface profile controls the color assigned to various elements of the interface, the actions assigned to PFKEYs, the language in which information is present, and the initial workspace displayed after you log on. IBM supplies a default profile named KOBCUA. You can create site-specific or individual user profiles by copying and renaming the default profiles and changing the default values to suit your preferences. You can also create site-specific locale profiles for users at different locations.

For more information about locale profiles, see [“Locale profiles” on page 980](#).

## Interface profiles

Interface profiles, also referred to as logon profiles, control the appearance of workspaces and the source from which data is collected. There are three types of interface profiles: IBM default, site, and user.

Interface profiles specify session configuration values for the following workspace properties:

- Locale (which controls display formats for date and time, monetary values, and separators)
- The color of workspace elements such as headers, borders, and text
- The color of status indicators
- The initial workspace a user sees
- The hub monitoring server from which data is collected
- The number of cycles before the auto update is suspended.

The default KOBCUA profile contains session configuration defaults.

You can create a *site-defined profile* to define settings that are different from the IBM-supplied defaults. This customized profile becomes the default for all enhanced 3270 interface sessions at the installation. It takes precedence over the IBM-supplied profile. The installation-defined profile must be named CUASITE.

You can create a *user profile* to customize users' individual sessions. The user-defined profile takes precedence over the installation- and IBM-supplied profiles. Name the user profile with the user ID that will be used to log on to the interface. Users can use the **User Profile Member** workspace to customize their profiles. For more information about customizing a user profile, see [“Customizing a user profile” on page 937](#).

The IBM-supplied profile is always available and cannot be changed. You must create one or more custom profiles based on the IBM-supplied profile and use them to specify the hub monitoring server from which data is to be collected for display in the enhanced 3270 user interface.

To create custom site and user interface profiles, copy the IBM-supplied KOBCUA profile to a private read/write data set. For more information about creating a custom profile, see [“Creating a custom interface profile” on page 976](#).

## Creating a custom interface profile

Create custom interface profiles to specify site or individual preferences for display colors, the initial workspace, and the source for the data that is displayed.

Custom profiles are stored in the `&hilev.&midlev.UKOBDATF` data set, which is created during configuration of the interface.

**Note:** This process can also be completed by using the [“Profile viewing and cloning” on page 977](#) procedure.

## Procedure

1. In the UKOBDATF data set, create a member with the name CUASITE (for a site profile) or with the user ID that will be used to log on to the enhanced 3270 user interface with the profile (for a user profile). This is usually a TSO user ID.  
Use the profile viewing and cloning feature to create the member. For more information about profile viewing and cloning, see “Profile viewing and cloning” on page 977.
2. Edit the member and modify it to reflect the site or user preferences.
3. To activate the changes log off the interface and then log back on again.

## Profile viewing and cloning

You can use the OMEGAMON enhanced 3270 user interface to view and clone user profiles.

Use Profile viewing and cloning to customize the standard user profiles that are delivered with the enhanced 3270 user interface.

### Preparing for profile cloning

In preparation for profile cloning by a user complete the following administrative steps:

1. Ensure that the user has the required authority.  
The cloning process copies a standard product-provided profile from a configuration runtime environment data set to a user profile data set. The runtime environment data set is a read only data set, the user profile data set is a writeable data set. The user that wants to clone a profile must have the authority to create new members in the user profile data set. The default user profile name is `<hilev>.<rtename>.UKOBDATF`.
2. Ensure that the user profile data set is the first data set that is specified in the RKOBPROF DD statement. The user profile data set is the data set that is pointed to by the enhanced 3270 user interface started task JCL UKOBDATF DD statement.  
If you ensure that it is the first data set, it facilitates profile testing when customization changes are applied.

**Important:** Be sure that you specify the same `<hilev>.<rtename>.UKOBDATF` data set in both the UKOBDATF DD and RKOBPROF DD statements.

3. Minimize potential disruptions to other enhanced 3270 user interface users.  
Because the cloning and customization process modifies product provided profiles, it must be done in a configuration that is not disruptive to ongoing normal usage of the enhanced 3270 user interface. For example, a separate enhanced 3270 user interface address space with a unique instance of the user profile data set might be used during the customization and testing process. After the customization and testing, the changes might be deployed to a shared development or production configuration by copying the customized profiles into a corresponding data set that is specified in the shared development or production configuration enhanced 3270 user interface started task JCL.

## Related information

### Cloning a Profile

#### Cloning a Profile

Use the **Profiles** workspace to make a copy of a profile and save it to the user profiles data set.

### Before you begin

You must complete some administrative steps before a profile is cloned. For more information about these steps, see “Profile viewing and cloning” on page 977.

### Procedure

1. Identify the profile to be cloned.
2. Go to the **Runtime Environment (Profiles)** workspace to browse the available profiles.  
There are a number of ways you can go to **Runtime Environment (Profiles)** workspace:
  - From the menu bar, select **Tools > Runtime Environment**. The **Runtime Environment** workspace opens. Then move your cursor over the **Profiles** button and press **Enter**.

- Move your cursor over the **RTE** icon in the drawer and press **Enter**. The **Runtime Environment** workspace opens. Then move your cursor over the **Profiles** button and press **Enter**.

The **Runtime Environment (Profiles) KOBPROFS** workspace opens. This workspace presents two workspace subpanels that provide directory lists for the user profile data set (UKOBDATF DD) and the runtime environment profiles data set (RKOBPROF DD).

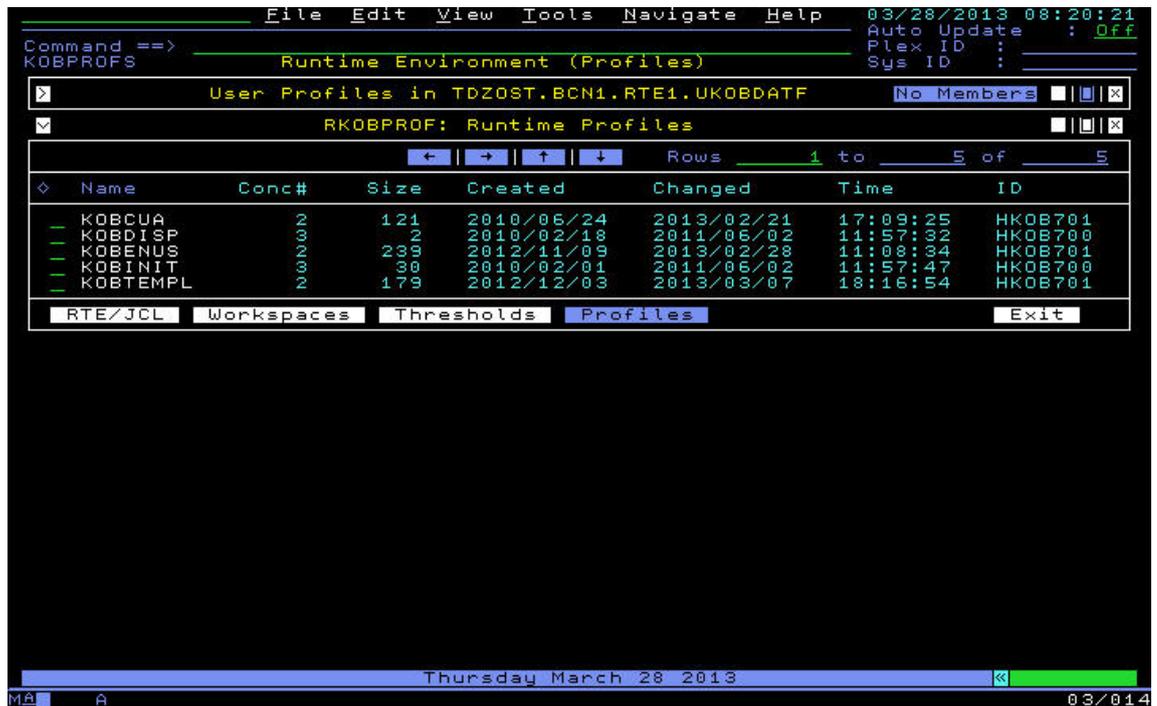


Figure 151: Runtime Environment (Profiles), locating the profile member

3. Place the cursor in the input field of the profile name that you want to clone and press **Enter**. For example, to select the KOBCUA profile, place the cursor in the input field that precedes the profile name and press **Enter**. The **Partitioned Dataset Member (KOBPDSD)** view opens showing a view of the KOBCUA profile content.
4. To clone the profile that is being viewed, select **File > Save As**. For example, to clone the KOBCUA profile, place the cursor under **File** on the menu bar and press **Enter**. Then, from the **File** menu select option 4, **Save As** by typing a or 4 and pressing **Enter**.

**Fastpath:** You can fast path to **File > Save As** by entering f . a in the action line.

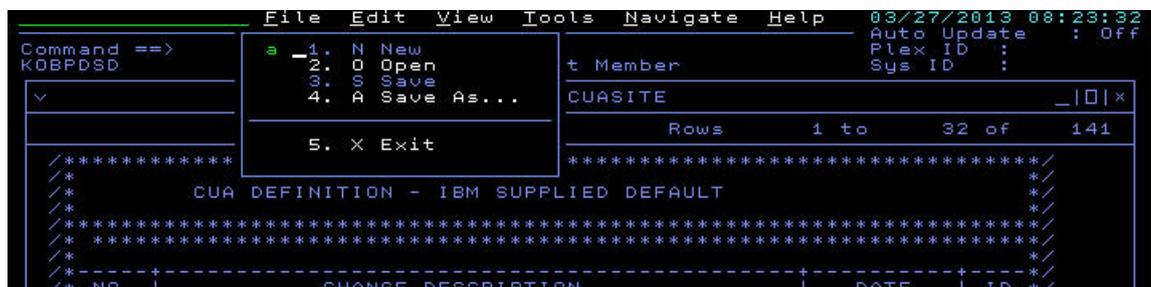


Figure 152: Cloning a profile by using the File > Save As menu option

When you press **Enter**, the **Member Save As** dialog box opens:

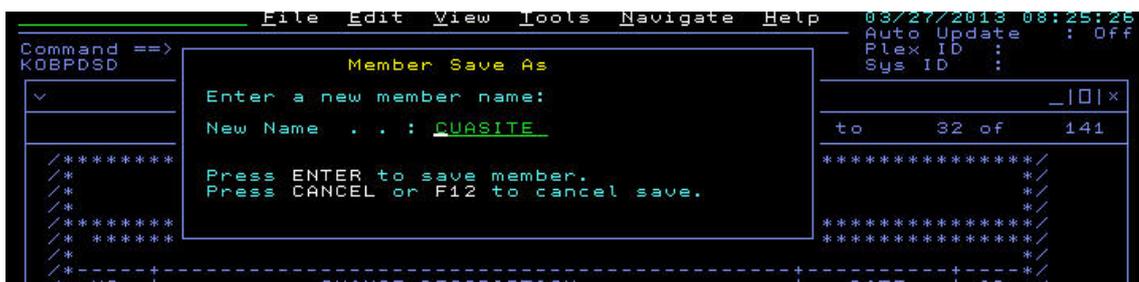


Figure 153: Cloning a profile - the **Member Save As** dialog box

- Enter the profile name that you want to use for the cloned profile.  
 A typical site administration task is to clone the KOBBCUA profile to create a site-defined profile that must be named CUASITE. In this example CUASITE is entered in the New Name field.  
 The saved CUASITE profile is written to the user profile data set. The original IBM-provided KOBBCUA profile is preserved intact in the runtime environment data set. Because the CUASITE profile is a special case, it is also written to the runtime environment data set and it takes precedence over the IBM-provided KOBBCUA profile for all users of the installation. If a name other than CUASITE is entered in the New Name field, the saved profile is written only to the user profile data set. To take precedence over the IBM-provided KOBBCUA profile and the site CUASITE profile for a specific user, name the profile with the user ID of the specific user.  
 When you press **Enter**, the **Save As** action is confirmed and you are returned to the **Partitioned Dataset Member (KOBPDSD)** view.
- Press **PF3 (End)** to return to the **Runtime Environment (Profiles) KOBPROFS** workspace.

## Result

The profile directory view for the user profile data set now lists the cloned profile, as shown in the following example:

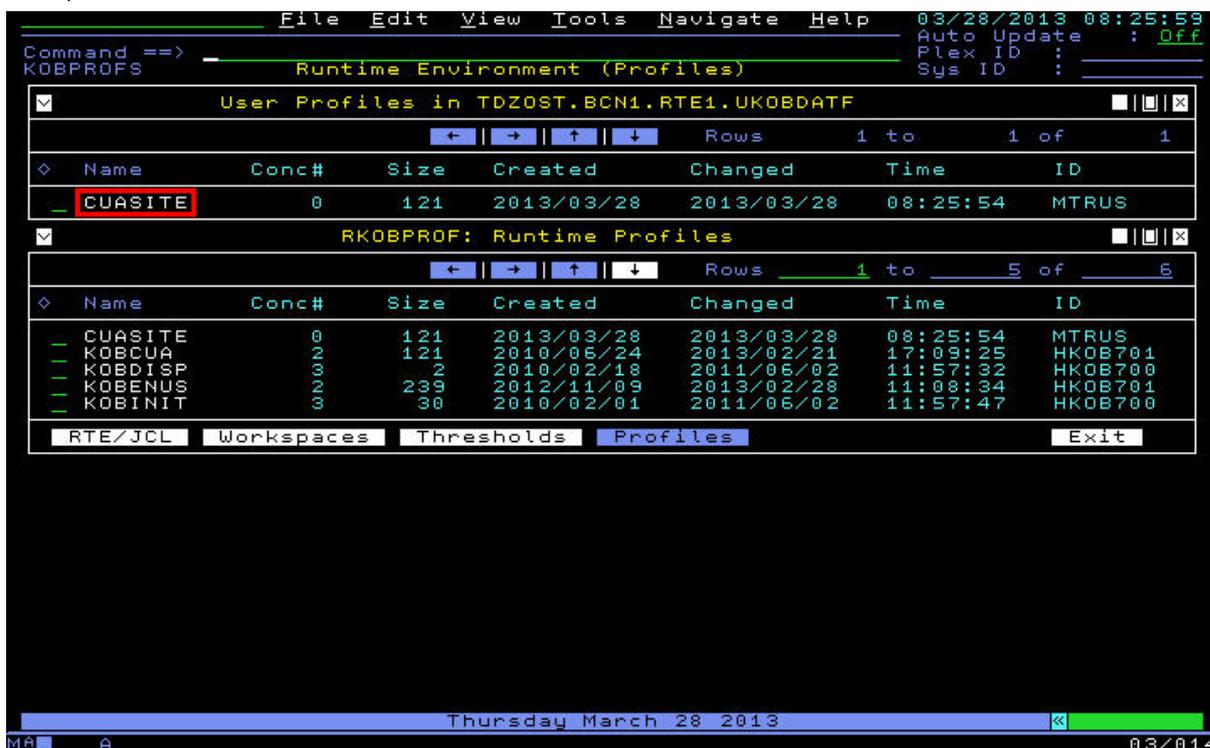


Figure 154: User profile data set that shows a cloned profile

## What to do next

When the profile cloning is complete, edit and test the profile, customizing its contents to user requirements. Use a file editor such as the ISPF editor to edit the profile.

**Remember:** Your users can use the **User Profile Member** workspace to set many of their profile settings directly. For more information about this workspace, see [“Customizing a user profile” on page 937](#).

## Locale profiles

The locale profile controls the display of date, time, currency symbol, and thousandth separator. IBM supplies a default profile, KOBENUS, that defines display characteristics that are based on United States English. You can create profiles that specify different display characteristics.

A locale profile is a member of the data set allocated to the RKOBPROF DD statement. The name of the member must be KOB*locale\_id*, where *locale\_id* is the 4-character identifier that is specified in the interface profile for the session, for example, in the member KOBENUS, ENUS is the identifier that denotes an English (United States) profile.

## Creating a custom locale profile

Create custom locale profiles to specify your preferences for the date and time format, the currency symbol, and the thousands separators.

Custom profiles are stored in the *&hilev.&midlev.UKOBDATF* data set.

## Procedure

1. In the UKOBDATF data set, create a member with the name KOB*cccc*, where *cccc* is the 4-character locale ID, for example KOBEURO for a profile with European formats.  
Use the profile viewing and cloning feature of the interface to complete this step. For more information about profile viewing and cloning, see [“Profile viewing and cloning” on page 977](#).
2. Edit the member and modify it to reflect the user preferences.  
See [“Locale profile keywords” on page 980](#) for keyword descriptions and possible values.
3. To activate the changes, log off and back on to the interface .

**Remember:** If you add a new DD statement for the profile definitions, you must recycle the interface to activate the changes.

## What to do next

After you create the custom profile, update any site or user profiles that you want to reference the new profile. For this example, you specify LOCALEID=EURO in the site or user profiles. Code RKANWEUR DD in your procedure and concatenate the data sets with the workspaces to it.

## Locale profile keywords

Settings in the locale profile are configured using *keyword=value* pairs. The keywords are grouped into two stanzas: LOCALE and ACTIONBAR.

The <LOCALE> stanza contains the following keywords:

### LOCALEDESC

A description of the profile.

### DATEFORMAT

Three date formats are supported:

- MM/DD/YYYY (the default)
- DD/MM/YYYY (European)
- YYYY/MM/DD (global)

### TIMEFORMAT

Time format can be 12 (default) or 24

## CURRENCY

Not currently implemented.

## THOUSANDPOS

Not currently implemented.

## SCALING

Not currently implemented.

## MICROSECOND

Not currently implemented.

The locale profile also contains an <ACTIONBAR> stanza that define the menus and menu options in the action bar that appears at the top of workspaces. These definitions cannot be changed.

## Hub connectivity administration

Hub connectivity administration is used to validate that a requested hub Tivoli Enterprise Monitoring Server can be reached through a TCP/IP connection during the operation of the OMEGAMON enhanced 3270 user interface.

Hub connectivity administration provides information about the user interface address space that you are running in, on what LPAR, and, in what Sysplex. If your current profile does not specify a hub monitoring server for your user interface address space, hub connectivity administration assists you in locating all the available hub monitoring servers in your Sysplex. When you locate the available hub monitoring servers, hub connectivity administration then helps you to select and make a good connection to the hub. When you establish a good hub connection, the connection produces useful data on the user interface.

Hub connectivity administration also provides you with the following information:

- A status overview of every hub monitoring server that is known to the user interface
- The Managed System Names and Managed System Lists that are known for each hub monitoring server
- The starting point for access to the IBM Tivoli Monitoring Service Index, Tivoli Monitoring Service Consoles, and Tivoli Monitoring SOAP servers that are known for each hub monitoring server.

## Multi-hub support

You can use the multi-hub support feature to select a secondary hub monitoring server connection. When you select a secondary hub connection, you can switch between your primary and secondary hub connections. For example, if your site runs multiple hub monitoring configurations, you can use this feature to quickly switch between configurations. You can switch connections manually, or automatically, for example in the event of an unavailable hub connection.

### Secondary Hub Connection

Multi-hub support does not provide a mechanism to make your secondary hub connection a backup or failover of your primary hub connection. Unless you have other mechanisms in place to provide a backup or failover hub monitoring server, it is more likely that your secondary hub connection is monitoring another configuration. For example, your primary hub might be monitoring the *production systems* configuration, while your secondary hub might be monitoring the *test systems* configuration.

**Note:** For more information about selecting a secondary hub connection, see [“Selecting a secondary hub connection” on page 996](#).

## Validate a requested hub Tivoli Enterprise Monitoring Server

While you are interacting with the OMEGAMON enhanced 3270 user interface, a hub Tivoli Enterprise Monitoring Server data source is needed to handle SQL queries that are issued by the user interface workspaces that you want to display.

During the installation of the enhanced 3270 user interface, part of the configuration process is to specify the hub monitoring server, which includes the name of the monitoring server, the IP address, and port number that the SQL queries are sent. For example, as shown in the following screen capture:

```

File Edit Edit_Settings Menu Build SCLM Utilities Test Help
VIEW TDZOS.OB701MNT.DATF (KOBQUA) - 01.28 Columns 00001 00072
Command ==>
012400 <CUADATA>
012500
012600 /* Note: specify fully qualified Hub Tivoli Enterprise Management */
012700 /* Server (Hub TEMS) information below. */
012800 /* Specify IPV6 format Hub IP address; e.g. ::ffff:n.n.n.n */
012900 /* ... or IPV4 format Hub IP address; e.g. n.n.n.n */
013000 /* Un-comment the sample statements provided below and */
013100 /* shift the content left to begin in column 1. Replace */
013200 /* the Hub information values to specify your site values. */
013300
013400 HUBNAME=M5DOHAHB:CMS
013500 HUBIPADDRESS=::ffff:9.42.46.125
013600 HUBPORTNUMBER=11757
013700
013800 /*****
013900 /* */
014000 /* END OF PROFILE DEFINITION */
014100 /* */
014200 /*****
***** Bottom of Data *****

```

Figure 155: CUADATA profile definition shown during the configuration process at installation time

When you log on to the user interface, the hub monitoring server specifications are retrieved from your profile, and an attempt is made to connect to that hub. If the connection attempt is successful, the initial workspace panel for your profile is displayed, for example, the **Enterprise Summary (KOBSTART)** workspace.

If the hub monitoring server connection attempt fails, the **Hub Connectivity Administration** workspace is displayed, as shown in “[Figure: Hub Connectivity Administration workspace that shows a connectivity failure](#)” on page 985. This workspace notifies you that a failure occurred and the possible reason for the connection failure.

These are some of the reasons for failed connections to a requested hub monitoring server:

- The name of the hub monitoring server is incorrect (names are case-sensitive).
- The hub monitoring server IP address is incorrect.
- The hub monitoring server TCP/IP port number is incorrect.
- The hub monitoring server is not operational (not started or is having communications problems).
- TCP/IP or z/OS® UNIX® System Services on the z/OS system that is running the user interface address space is not configured to allow TCP/IP communications between the interface and the hub monitoring server.
- A TCP/IP firewall is preventing successful communications between the interface and the hub monitoring server.

## Logon administration and customization

When you log on to the enhanced 3270 user interface (enhanced 3270UI) for the first time, **Hub Connectivity Administration** can assist you to specify a hub Tivoli® Enterprise Monitoring Server connection.

### Procedure

1. Log on to the user interface in the standard way.  
For more information about logging on, see “[Logging on](#)” on page 900.  
If a hub monitoring server is specified in your profile, and that hub is available, a connection is made to the hub and your initial workspace is displayed. By default, the initial workspace is the **Enterprise Summary (KOBSTART)** workspace. If a hub monitoring server is not specified in your profile, the **Hub Connectivity Administration** workspace is displayed.

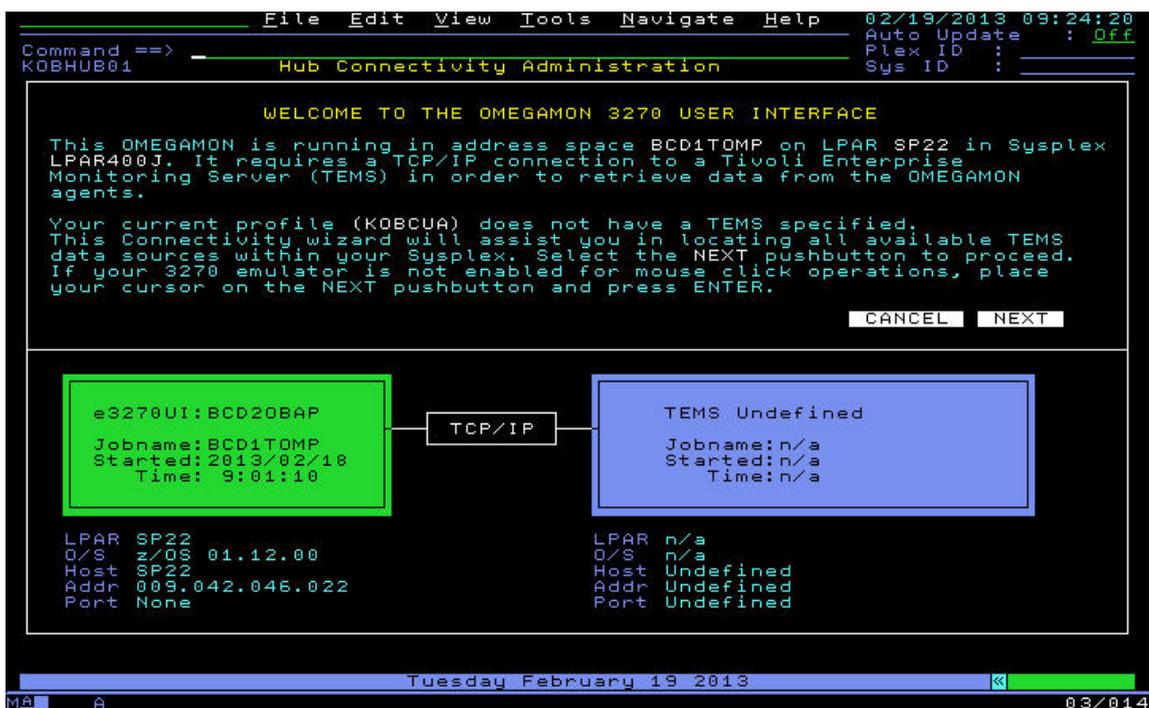


Figure 156: Hub Connectivity Administration workspace that shows a hub connection is not specified for the current profile

- To select the **NEXT** icon on the **Hub Connectivity Administration** workspace, move your cursor to the icon and press **Enter** or double-click the icon. The **All Known Hubs (KOBHUBS)** workspace is displayed showing all of the available hubs that are known to the enhanced 3270UI.



Figure 157: Hub Connectivity Administration All Known Hubs (KOBHUBS) workspace

**Tip:** You can browse overview status information about each hub from this workspace. For more information about the **All Known Hubs (KOBHUBS)** workspace, see [“The All Known Hubs workspace”](#) on page 992.

3. On the **All Known Hubs (KOBHUBS)** workspace, place your cursor next to a hub monitoring server name and press **Enter**.  
The **Action Confirmation** panel is displayed. The panel lists information about the hub monitoring server to be used for your workspace queries. On the **Action Confirmation** panel, you can enter Y to confirm the action or N to cancel the action.
4. Enter Y to confirm the action. The **Hub Verification Complete (KOBHUB04)** workspace is displayed and shows two green information boxes that indicate a successful TCP/IP connection.

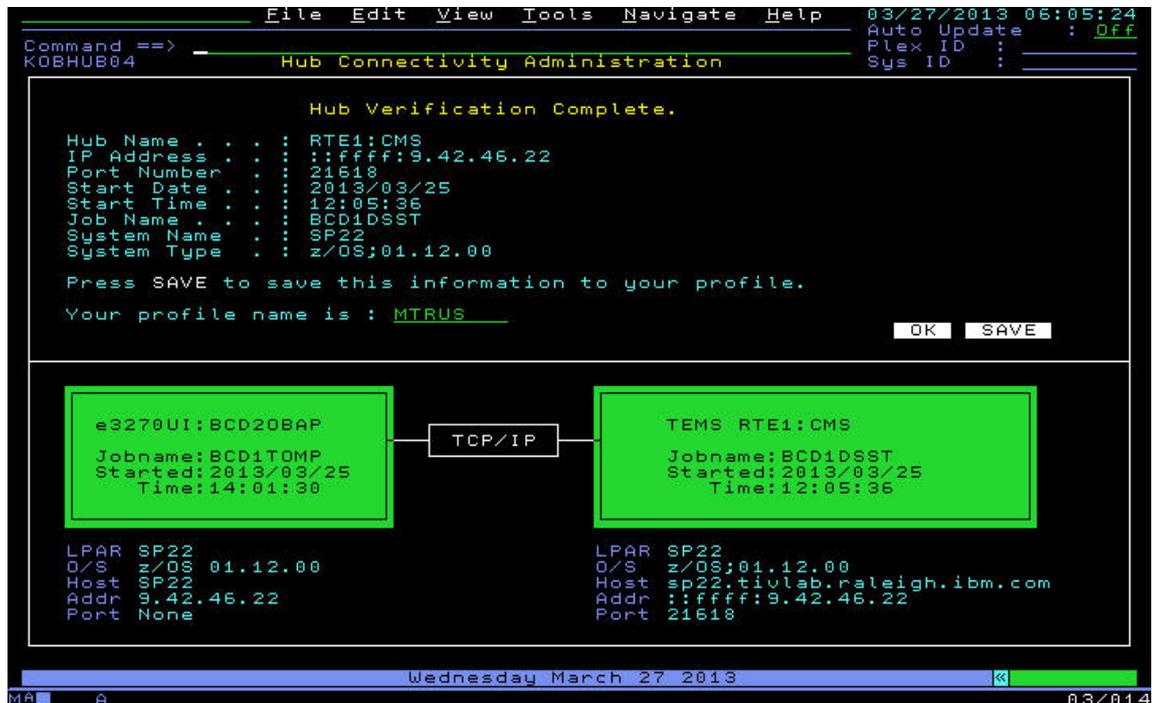


Figure 158: **Hub Verification Complete (KOBHUB04)** workspace that shows a successful hub connection

- a. To save the hub monitoring server name to your user profile, select **SAVE**.
- b. To use the selection for your current enhanced 3270UI session, select **OK**.

## Result

Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

## Correcting a failed hub server connection

Use **Hub Connectivity Administration** to assist you in locating all of the available Tivoli Enterprise Monitoring Server data sources. **Hub Connectivity Administration** helps you to correct any failed connection situations that prevent you from accessing the OMEGAMON enhanced 3270 user interface and your subsequent product workspaces.

## About this task

When you log on to the user interface, if the hub monitoring server connection attempt fails, the **Hub Connectivity Administration** workspace is displayed and notifies you that a failure occurred and the possible reason for the connection failure. The workspace helps you to correct the connection failure and to save a corrected profile to prevent future failures.

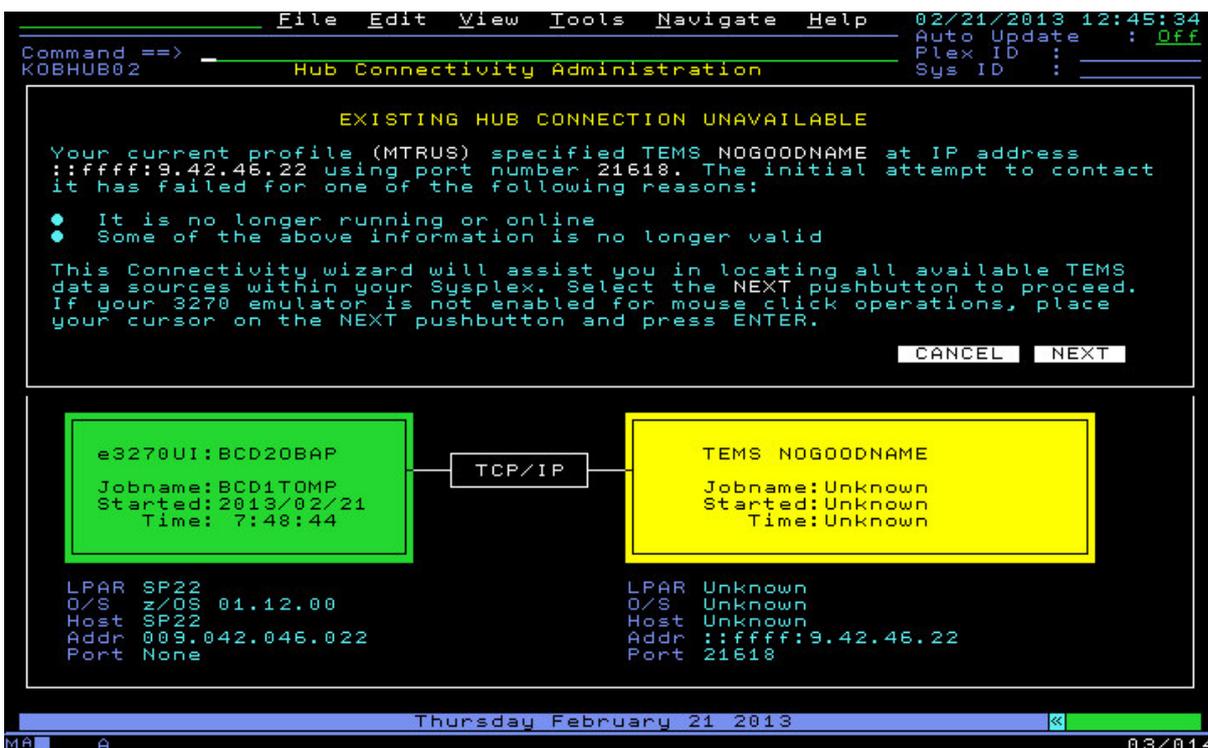


Figure 159: Hub Connectivity Administration workspace that shows a connectivity failure

**Tip:** If this is your first time logging on to the user interface and a hub monitoring server is not specified in your profile, you see the **Hub Connectivity Administration** workspace but with a different message that states the reason for the failure. If the message indicates that your current profile does not have a hub specified, see [“Logon administration and customization” on page 940](#).

## Procedure

1. On the **Hub Connectivity Administration** workspace that shows the connectivity failure, select the **NEXT** icon by moving your cursor to the icon and pressing **Enter** or moving your mouse to the icon and selecting it. The **All Known Hubs (KOBHUBS)** workspace is displayed showing all of the available hubs that are known to the user interface.



Figure 160: Hub Connectivity Administration All Known Hubs (KOBHUBS) workspace

**Tip:** You can browse overview status information about each hub from this workspace. For more detailed information about the **All Known Hubs (KOBHUBS)** workspace, see “[The All Known Hubs workspace](#)” on page 992.

- On the **All Known Hubs (KOBHUBS)** workspace, place your cursor next to a hub monitoring server name and press **Enter**.  
The **Action Confirmation** panel is displayed. The panel lists information about the hub monitoring server to be used for your workspace queries. On the **Action Confirmation** panel, you can enter Y to confirm the action or N to cancel the action.
- Enter Y to confirm the action. The **Hub Verification Complete (KOBHUB04)** workspace is displayed and shows two green information boxes that indicate a successful TCP/IP connection.

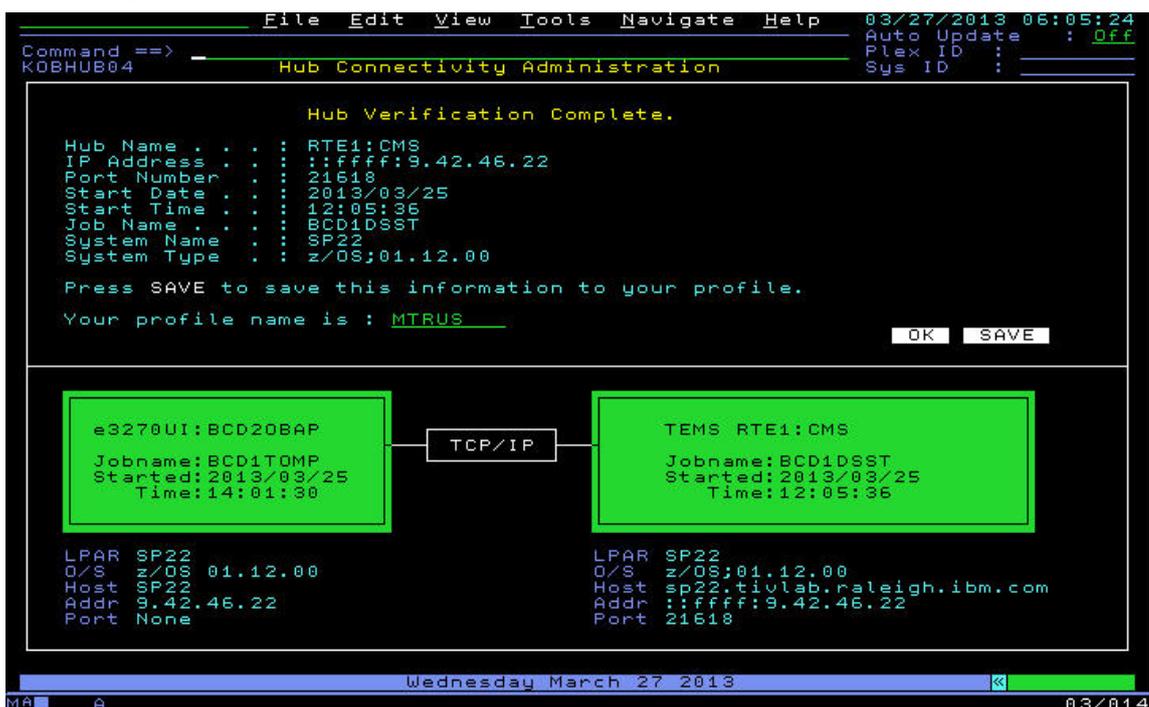


Figure 161: Hub Verification Complete (KOBHUB04) workspace that shows a successful hub connection

- a. To save the hub monitoring server name to your user profile, select the **SAVE** icon.
- b. To use the selection for your current user interface session, select the **OK** icon.

## Result

Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

## Changing a hub server connection

Use **Hub Connectivity Administration** to change your existing hub connection.

### Before you begin

If you have not yet successfully connected to a hub monitoring server, see [“Correcting a failed hub server connection” on page 984](#).

### About this task

When you are logged on to the user interface, and are successfully connected to a hub monitoring server, you can use **Hub Connectivity Administration** to browse other hub connections that are available. While browsing the available hubs, you can select and connect to a different hub. Finally you can use the workspace to save the newly specified hub connection to your profile, either for the current session only, or to your profile for future sessions.

### Procedure

1. Go to the **Hub Connectivity Administration** workspace.  
To go to **Hub Connectivity Administration** workspace, enter the HUB command, select **Tools > Current Hub Information** from the menu bar or move your cursor over **HUB** in the drawer and press **Enter**.  
The **Hub Connectivity Administration** workspace is displayed.

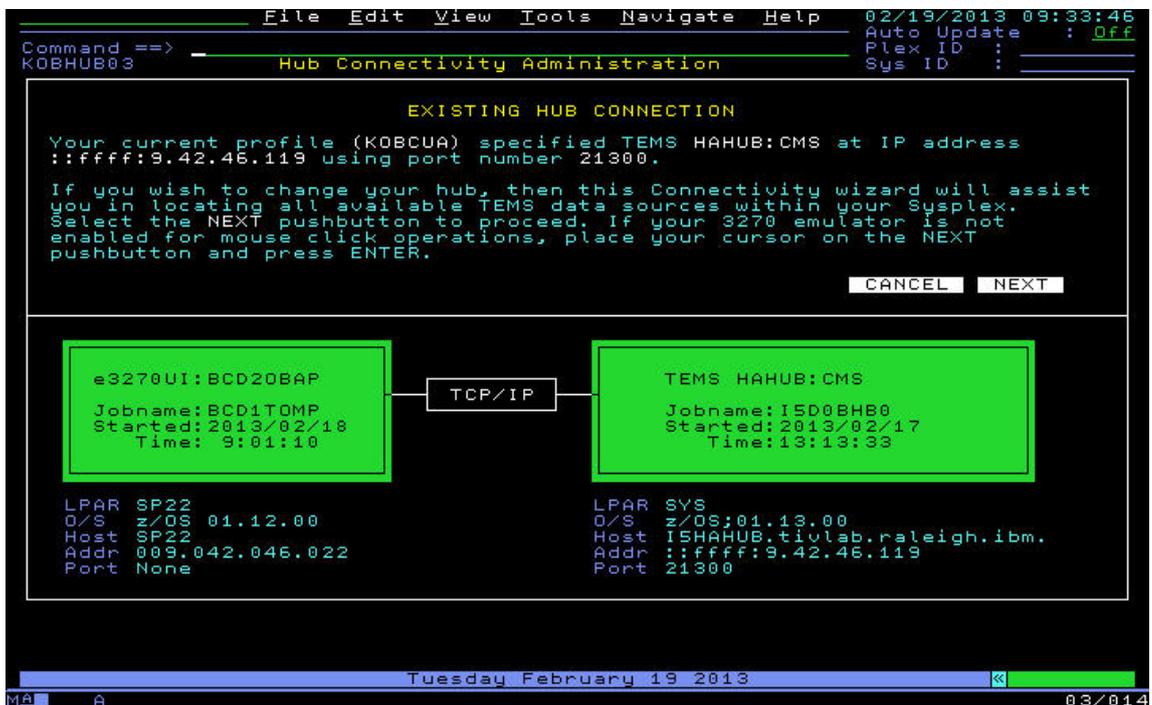


Figure 162: Hub Connectivity Administration workspace that shows an existing hub connection

**Tip:** If you previously selected a secondary hub connection, you see more information in the **Hub Connectivity Administration** workspace. For more information about selecting a secondary hub connection, see [“Selecting a secondary hub connection” on page 996](#).

- On the **Hub Connectivity Administration** workspace, select the **NEXT** icon by moving your cursor to the icon and pressing **Enter** or moving your mouse to the icon and selecting it. The **All Known Hubs (KOBHUBS)** workspace is displayed showing all of the available hubs that are known to the user interface.

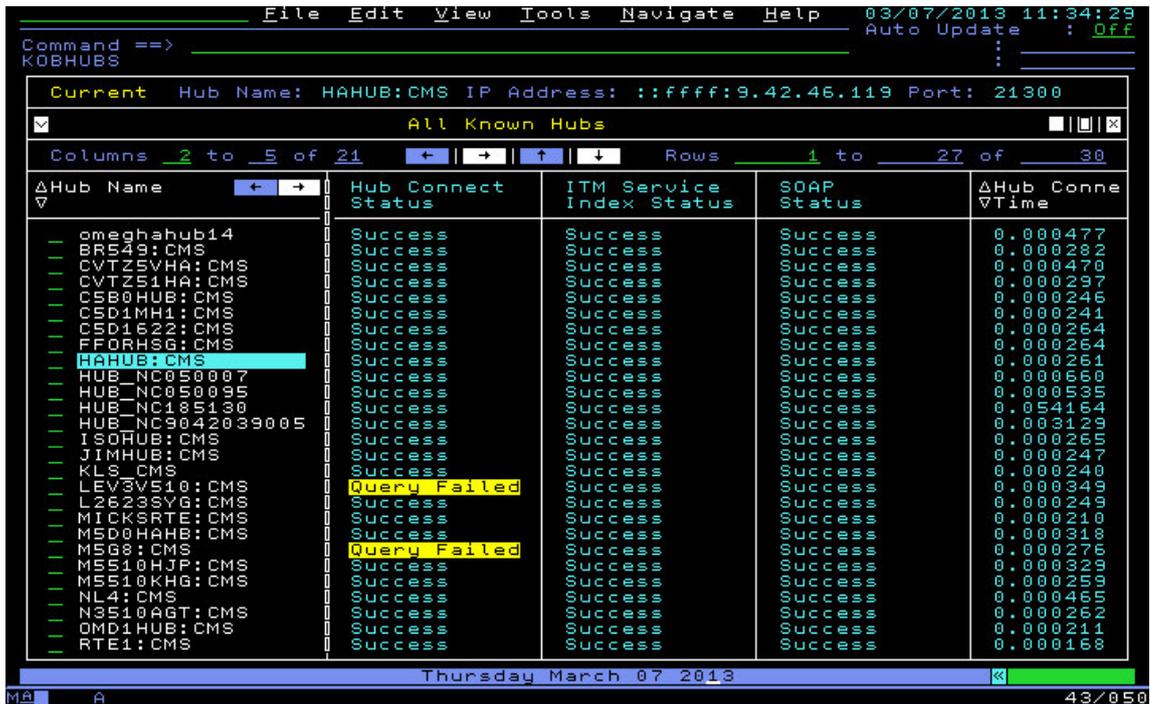


Figure 163: Hub Connectivity Administration All Known Hubs (KOBHUBS) workspace

The existing hub connection is highlighted as shown in the screen capture.

**Tip:** You can browse overview status information about each hub from this workspace. For more detailed information about the **All Known Hubs (KOBHUBS)** workspace, see [“The All Known Hubs workspace” on page 992](#).

- On the **All Known Hubs (KOBHUBS)** workspace, select a different hub by placing your cursor next to a hub monitoring server name and press **Enter**. The **Action Confirmation** panel is displayed. The panel lists information about the new hub monitoring server to be used for your workspace queries. On the **Action Confirmation** panel, you can enter Y to confirm the action or N to cancel the action.
- Enter Y to confirm the action. The **Hub Verification Complete (KOBHUB04)** workspace is displayed and shows two green information boxes that indicate a successful TCP/IP connection.

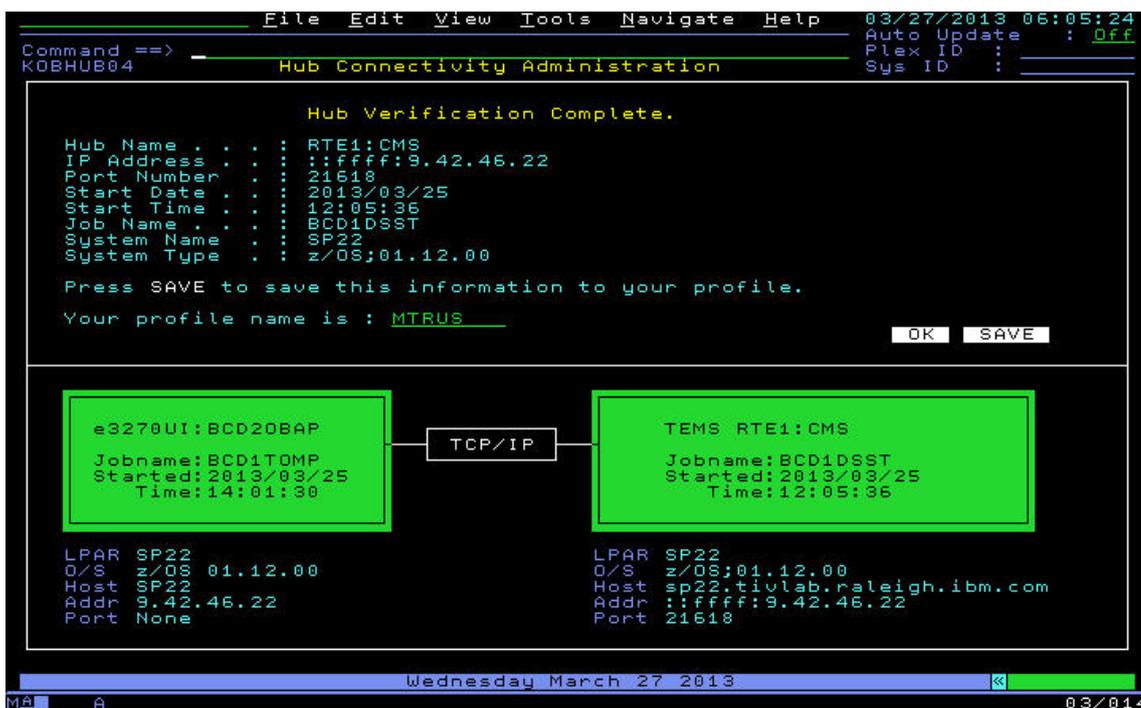


Figure 164: Hub Verification Complete (KOBHUB04) workspace that shows a successful hub connection

- To save the hub monitoring server name to your user profile, select the **SAVE** icon.
- To use the selection for your current user interface session, select the **OK** icon.

## Result

Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

## What to do next

You can optionally select a secondary hub connection. For more information about selecting a secondary hub connection, see [“Selecting a secondary hub connection” on page 996](#).

## Switching hub connections

When you select a secondary hub connection, you can switch between your primary and secondary hub connections.

## Before you begin

To select a secondary hub connection, see [“Selecting a secondary hub connection” on page 996](#).

## About this task

You can manually switch between your primary and secondary hub connection, which is described in the following procedure.

In the event of one of the connections being unavailable, you can automatically switch between primary and secondary hub connections. A hub connectivity check runs when the **Hub Check** option is enabled in your User Preferences. The **Hub Check** option is enabled by default. If the hub connectivity check fails, an attempt is made to auto-switch your hub connection to your chosen secondary connection. If the switch is successful you see a notification similar to the one shown in [“Figure: Hub Connectivity Alert Multi-Hub Switch Notification workspace” on page 991](#). For more information about the **Hub Check** option, see [“User Preferences” on page 936](#).

**Note:** Mechanisms are not provided to make your secondary hub connection a backup or failover of your primary hub connection. For more information about multi-hub support, see [“Multi-hub support” on page 981](#).

## Procedure

1. Use one of the following methods to switch hub connections.
  - Go to the **Hub Connectivity Administration** workspace and select the **SWITCH** icon.

**Tip:** To go to **Hub Connectivity Administration** workspace, select **Tools > Current Hub Information** from the menu bar or move your cursor over **HUB** in the drawer and press **Enter**.

```
File Edit View Tools Navigate Help 12/10/2013 08:38:45
Auto Update : Off
KOBHUB06 Hub Connectivity Administration Plex ID :
Sys ID :

EXISTING MULTI-HUB CONFIGURATION

Your current profile (MTRUS) specified TEMS CSD1MH1:CMS at IP address
::ffff:9.42.46.25 using port number 51169. Your secondary hub TEMS is
defined as RTE1:CMS at IP address ::ffff:9.42.46.22 using port number
21618.

Select the CANCEL pushbutton to return to the prior workspace. If you wish
to switch between hubs, select the SWITCH pushbutton. If you wish to
modify this configuration, this Connectivity dialog will assist you in
locating all available TEMS data sources within your Susptex. Select the
NEXT pushbutton to proceed. If your 3270 emulator is not enabled for mouse
click operations, place your cursor on a pushbutton and press ENTER.

CANCEL SWITCH NEXT

SECONDARY IS READY PRIMARY IS ACTIVE
●

TEMS: RTE1:CMS Jobname: BCD1DSST Started: 2013/12/09 Time: 9:14:45.
LPAR SP22
O/S z/OS:01.12.00
Addr ::ffff:9.42.46.22
Port 21618

3270

TEMS: CSD1MH1:CMS Jobname: CSD1MHUB Started: 2013/12/08 Time: 9:56:59.
LPAR SYS
O/S z/OS:01.13.00
Addr ::ffff:9.42.46.25
Port 51169

Hub CSD1MH1:CMS on platform SYS(z/OS) 03/014
```

Figure 165: Hub Connectivity Administration Existing Multi-Hub Configuration workspace.

- Select **Tools > Switch between hubs** from the menu bar.
- From the action or command line, enter the **SWITCH** command.

**Tip:** The **Existing Multi-Hub Configuration** panel and the **Tools > Switch between hubs** options are only available if you previously selected a secondary hub connection.

If the switch is successful, the **Hub Connectivity Alert** workspace displays a **Multi-Hub Switch Notification** to confirm that your hub connections are switched.

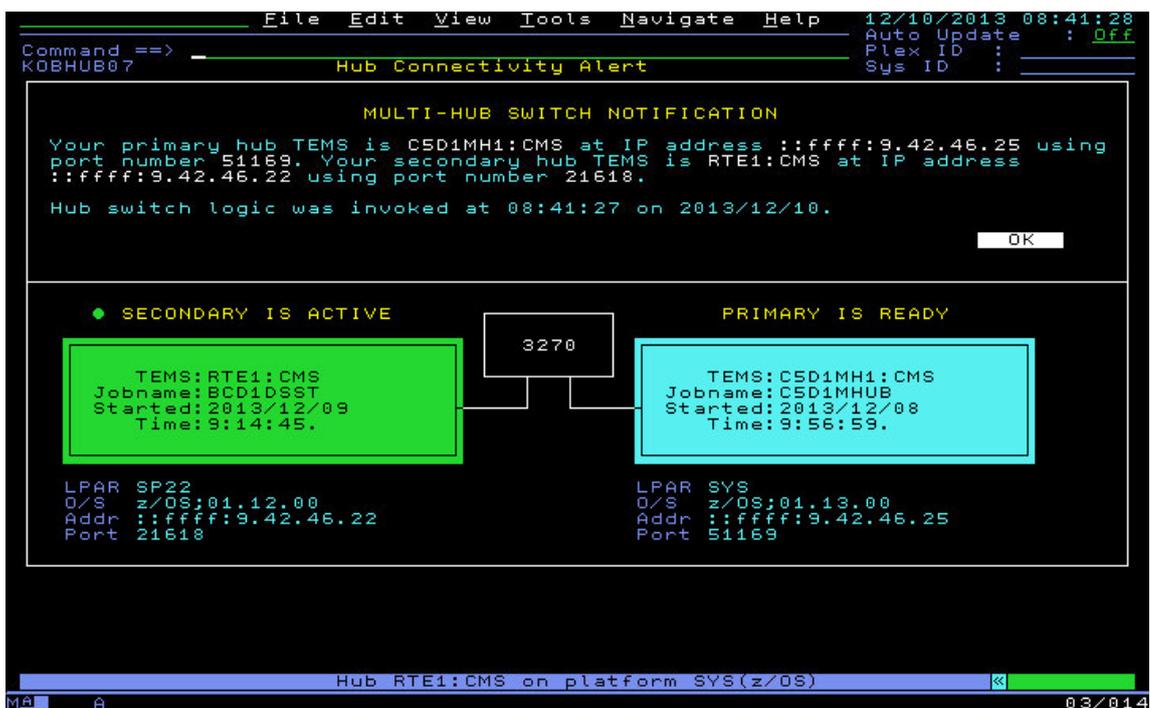


Figure 166: Hub Connectivity Alert Multi-Hub Switch Notification workspace

2. Select **OK**.  
Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

**Tip:**

If you attempt to switch to a hub connection that is not available, you see a **Hub Connectivity Alert Multi-Hub Switch Warning** and the switch does not occur.

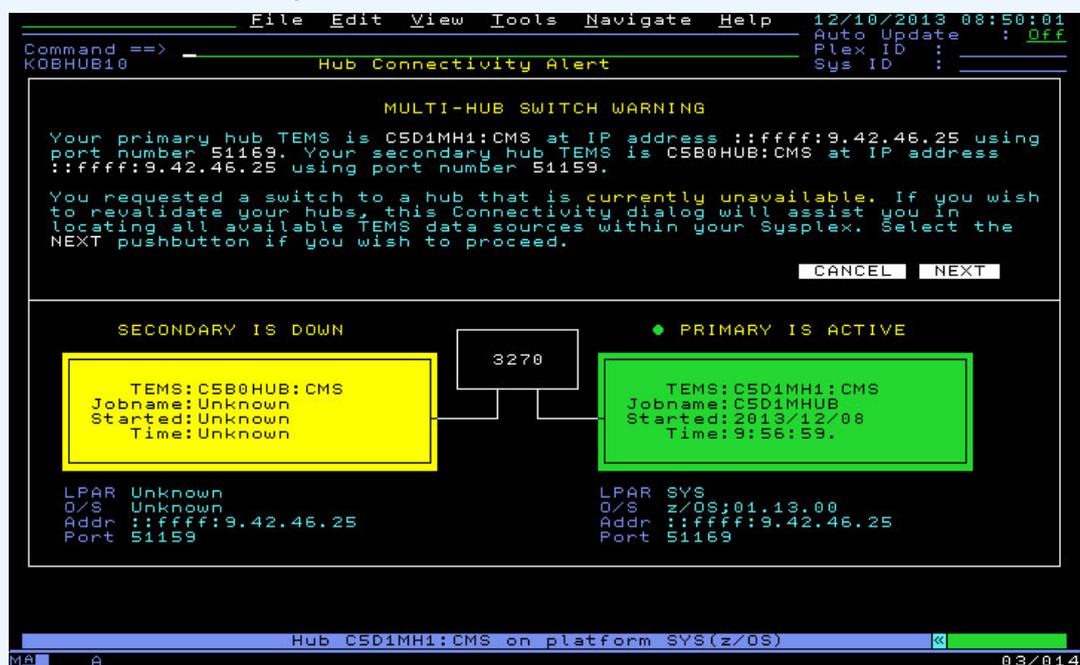


Figure 167: Hub Connectivity Alert Multi-Hub Switch Warning workspace.

If either your primary or secondary hub connections are unavailable, select **NEXT** on the **Hub Connectivity Alert** workspace to view other possible hub connections that may be available.

## Discarding a secondary hub connection

If you previously selected a secondary hub connection, but later decide that you no longer need a secondary hub connection, you can discard it.

### About this task

The option to discard a secondary hub connection is only available when you previously selected a secondary hub connection. For more information about selecting a secondary hub connection, see [“Selecting a secondary hub connection” on page 996](#).

### Procedure

1. Use one of the following methods to discard a secondary hub connection.

- Select **Tools > Discard the secondary hub** from the menu bar.
- From the action or command line, enter the DISCARD command.

The **Discard Confirmation** pop-up window opens.

2. Choose from the following options on the pop-up window.

- Select **OK** to discard your secondary hub connection only for the current session.
- Select **SAVE** to update your profile and discard your secondary hub connection permanently.
- Select **CANCEL** to do nothing, your secondary hub connection is not discarded.

## The All Known Hubs workspace

You can use the **All Known Hubs** workspace to view status information about each of the available hub Tivoli Enterprise Monitoring Servers in your Sysplex.

Use the **All Known Hubs** workspace to select and connect to an available hub monitoring server. The connection procedure is detailed in other topics. For more information about the connection procedure, see [“Changing a hub server connection” on page 987](#), [“Correcting a failed hub server connection” on page 984](#), and [“Logon administration and customization” on page 940](#).

You can use the **All Known Hubs** workspace to view valuable status information about each hub monitoring server that can help you decide the hub to use for your monitoring activities.

The workspace can be scrolled vertically and horizontally to view all of the available hubs and their status information. You can use **PF10** and **PF11** keys to scroll horizontally and **PF7** and **PF8** keys to scroll vertically. The workspace also contains vertical and horizontal arrow keys that you can use for scrolling. Select an arrow and press **Enter** to scroll in this way.

ΔHub Name	Hub Connect Status	ITM Service Index Status	SOAP Status	ΔHub Conne Time
CVTZ5VHA: CMS	Success	Success	Success	0.000582
CVTZ51HA: CMS	Success	Success	Success	0.000428
C5D1MH1: CMS	Query Failed	Success	Success	0.000332
C5D1622: CMS	Success	Success	Success	0.000252
HAHUB: CMS	Success	Success	Success	0.000279
HUB_NC050095	Success	Success	Success	0.000639
HUB_NC185130	Success	Success	Success	0.054429
HUB_NC9042039005	Success	Success	Success	0.003663
M5D0HAHB: CMS	Success	Success	Success	0.000310
M5510HJP: CMS	Success	Success	Success	0.000359
N3510AGT: CMS	Success	Success	Success	0.000259
PLB1SP22: CMS	Success	Success	Success	0.000204
RTE1: CMS	Success	Success	Success	0.000165
SVL511: CMS	Success	Success	Success	0.000301
SYSL: CMS	Success	Success	Success	0.000423

Figure 168: Hub Connectivity Administration All Known Hubs (KOBHUBS) workspace

### Hub status information

The following fields are displayed for every hub in the **All Known Hubs** workspace

#### Hub Name

The name that is given to a hub monitoring server during IBM Tivoli Monitoring configuration of a runtime environment (RTE).

#### Hub Connect Status

A text value that indicates whether a TCP connection can be established between the enhanced 3270 user interface address space and the specific hub monitoring server and whether an SQL query can be issued to the hub monitoring server. This TCP connection is attempted and then immediately closed. The TCP port number that is used is the port number that is assigned to this hub monitoring server during Tivoli Monitoring configuration of an RTE (typically port number 1918). Check the user interface REXX log (RKANRXLG DD name) for more details if the status is not **Success**.

The text values in the **Hub Connect Status** field can be as follows:

#### Success

The TCP connect and a query completed at the Hub.

#### Data Failure

A TCP send or receive failed with the Hub.

#### Timed Out

A TCP connect cannot complete in the allotted time.

#### Connect Fail

The TCP connect cannot complete.

#### TCP Failure

TCP cannot connect because of a failure with a TCP socket or select call.

#### Query Failed

A TCP connect was successful, but an SQL query to the Hub did not complete.

#### CannotAccess

The TCP port number to access the Hub cannot be determined.

#### SAF Denied

The status cannot be determined because the user does not have security authorization to connect to the specified Hub.

### **ITM Service Index Status**

A text value that indicates whether a TCP connection can be established between the enhanced 3270 user interface address space and the IBM Tivoli Monitoring Service Index component that is running at the specific hub monitoring server and whether the Tivoli Monitoring Service Index data can be retrieved. The TCP port number that is used is the HTTP port number that is assigned to this hub monitoring server during Tivoli Monitoring configuration of an RTE (typically port number 1920). Check the user interface REXX log (RKANRXLG DD name) for further details if the status is not **Success**.

The text values in the **ITM Service Index Status** field can be as follows:

#### **Success**

The TCP connect and Service Index retrieval completed at the Hub.

#### **Data Failure**

A TCP send or receive failed with the Hub.

#### **Timed Out**

A TCP connect and data retrieval did not complete in the allotted time.

#### **Connect Fail**

The TCP connect cannot complete.

#### **TCP Failure**

TCP cannot connect because of a failure with a TCP socket or select call.

#### **No HTTP Port**

The TCP port number that is needed to access the HTTP Server at the Hub cannot be determined.

#### **Did Not Try**

Because of previous connectivity failures an attempt is not made to find the value.

#### **SAF Denied**

The status cannot be determined because the user does not have security authorization to connect to the specified Hub.

### **SOAP Status**

A text value that indicates whether a TCP connection can be established between the enhanced 3270 user interface address space and the IBM Tivoli Monitoring SOAP server component that is running at the specific hub monitoring server and whether sample SQL query data can be retrieved. The TCP port number that is used is the HTTP port number that is assigned to this hub monitoring server during Tivoli Monitoring configuration of an RTE (typically port number 1920). Check the user interface REXX log (RKANRXLG DD name) for further details if the status is not **Success**.

The text values in the **SOAP Status** field can be as follows:

#### **Success**

The TCP connect and SOAP query completed at the Hub.

#### **Data Failure**

A TCP send or receive failed with the Hub.

#### **Timed Out**

A TCP connect and data retrieval did not complete in the allotted time.

#### **Connect Fail**

The TCP connect cannot complete.

#### **TCP Failure**

TCP cannot connect because a failure with a TCP socket or select call.

#### **No HTTP Port**

The TCP port number that is needed to access the HTTP Server at the Hub cannot be determined.

#### **Did Not Try**

Because of previous connectivity failures an attempt is not made to find the value.

**SAF Denied**

The status cannot be determined because the user does not have security authorization to connect to the specified Hub.

**Hub Connect Time**

The number of seconds it took to complete the TCP connection to the hub monitoring server. A value of n/a indicates the TCP connect cannot be attempted.

**Hub Time (bar graph)**

A small horizontal bar graph that shows the Hub Connect Time. This field is highlighted by colors that depend on the threshold settings for the KOBHUBS table, which you can adjust.

**ITM Service Index Time**

The number of seconds it took to retrieve the IBM Tivoli Monitoring Service Index from the hub monitoring server. A value of n/a indicates the TCP connect cannot be attempted.

**Srvc Time (bar graph)**

A small horizontal bar graph that shows the Tivoli Monitoring Service Index Time. This field is highlighted by colors that depend on the threshold settings for the KOBHUBS table, which you can adjust.

**SOAP Time**

The number of seconds it took to run a simple SOAP SQL query at the hub monitoring server. A value of n/a indicates the TCP connect cannot be attempted.

**SOAP Time (bar graph)**

A small horizontal bar graph that shows the SOAP Time. This field is highlighted by colors that depend on the threshold settings for the KOBHUBS table, which you can adjust.

**HTTP Port**

The TCP port number that is used with HTTP to access the IBM Tivoli Monitoring Service Index and the SOAP server. If there is no port number configured, the text value *Missing* is shown.

**HTTPS Port**

The TCP port number that is used with HTTPS to access the Tivoli Monitoring Service Index and the SOAP server. If there is no port number configured, the text value *Missing* is shown. HTTPS is a version of HTTP that supports authentication and encryption.

**Hub DRA Count**

The number of Data Retrieval Agents (DRAs) used by the enhanced 3270 user interface for this particular hub monitoring server.

**Hub TCP/IP Host Name**

The host name of the TCP/IP interface in use by the hub monitoring server.

**Hub IP Address**

The IP address in use by the hub monitoring server to which all user interface requests are directed.

**Hub Port**

The TCP port number in use by the hub monitoring server to which all user interface requests are directed. The port number is typically 1918.

**Hub Start Date**

The date that the hub monitoring server job was started.

**Hub Start Time**

The time of day that the hub monitoring server job was started.

**Hub Job Name**

The job name (z/OS system) or task name (Windows, UNIX, or Linux systems) under which the hub monitoring server is running.

**Hub System Name**

The operating system name under which the hub monitoring server is running.

**Hub System Type**

The operating system type under which the hub monitoring server is running. Typical values: z/OS; 01.13.00, Linux; 2.6.9-67.EL or Win2008; 6.0-SP2.

## Selecting a secondary hub connection

Use the multi-hub feature to select a secondary hub connection.

### Before you begin

If you are not yet successfully connected to a hub monitoring server, see [“Correcting a failed hub server connection” on page 984](#).

### About this task

When you are logged on to the user interface, and are successfully connected to a hub monitoring server, you can use **Hub Connectivity Administration** to browse other hub connections that are available. While you are browsing the available hub connections, you can use the multi-hub feature to select a secondary hub connection.

When you select a secondary hub connection, you can save the connection to your profile, either for the current session only, or to your profile for the current and future sessions.

For more information about multi-hub support, see [“Multi-hub support” on page 981](#)

### Procedure

- From the **All Known Hubs (KOBHUBS)** workspace use one of the following methods to select a secondary hub connection.
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **Select this hub as Secondary** from the **Options Menu**.
  - Place your cursor next to the hub monitoring server name that you are interested in, type B and press **Enter**.

The **Secondary Hub Verification** workspace is displayed. A diagram shows two colored information boxes that represent your hub connections. Under conditions where your primary hub connection is available, a green box represents the primary hub connection with an indication that it is ACTIVE. Under conditions where your secondary hub connection is available, a light blue box represents the secondary hub connection with an indication that it is READY.

**Tip:** Under conditions when your primary or secondary hub connections are unavailable when you select your secondary hub connection, you see variations of [“Figure: Secondary Hub Verification workspace” on page 997](#). Unavailable connections are indicated by yellow colored boxes on the workspace. In such conditions, the workspace assists you to locate available hub connections.

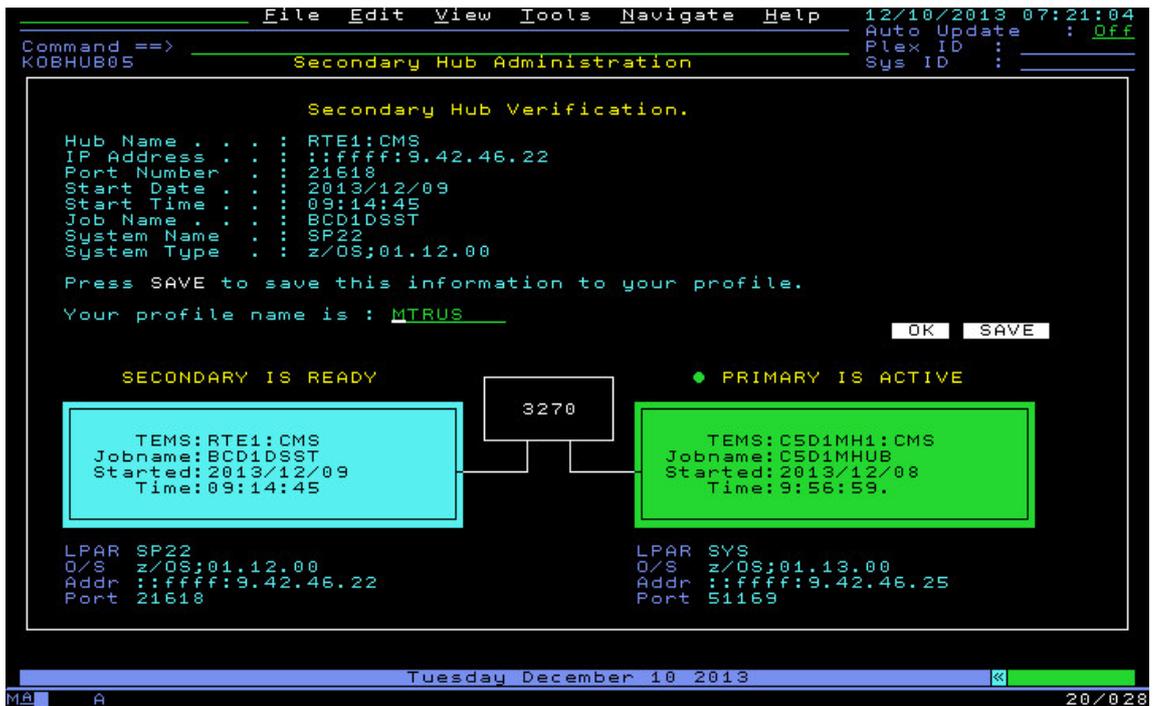


Figure 169: Secondary Hub Verification workspace

- To use the secondary hub selection for your current user interface session, select the **OK** icon.
- To use the secondary hub selection for your current user interface session and to save the secondary hub monitoring server name to your user profile, select the **SAVE** icon.

## Result

- Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.
- The name of the currently active hub connection is displayed in the footer area of the workspace.

## What to do next

For more information about switching between your primary and secondary hub connections, see [“Switching hub connections”](#) on page 989.

## Displaying hub overview status

You can use the **Hub Overview** workspace to see overview status about a specific hub Tivoli Enterprise Monitoring Server.

## About this task

This procedure shows you how to view status information about a specific hub monitoring server.

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace”](#) on page 992.

## Procedure

- From the **All Known Hubs (KOBHUBS)** workspace use one of the following methods to go to the **Hub Overview (KOBHBSTO)** workspace:
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **Status Overview for Hub** from the **Options** menu.
  - Place your cursor next to the hub monitoring server name that you are interested in, type 0 and press **Enter**.

The **Hub Overview** workspace is displayed.

```

File Edit View Tools Navigate Help 03/11/2013 12:59:50
Auto Update : Off
Command ==>
KOBHBSTO Hub Overview

Current Hub Name: RTE1:CMS IP Address: ::ffff:9.42.46.22 Port: 21618
Viewing Hub Name: RTE1:CMS IP Address: ::ffff:9.42.46.22 Port: 21618

Hub
Name . . . . . : RTE1:CMS
TCP/IP Host Name . . . . . : sp22.tivlab.raleigh.ibm.com
HTTP Port . . . . . : 1920
HTTPS Port . . . . . : Missing
DRA Count . . . . . : 3

Hub Communication
Test Connect port 21618 : Success          Seconds
ITM Service Index Connect: Success          0.001268
SOAP Connect . . . . . : Success          0.002575

Hub System Information
System Name      SP22
Process ID      310
User Name       TDUSER
Job Name        BCD1DSST
Task Name       BCD1DSST
System Type     z/OS;01.12.00
MAC1_ENV Macro  0x1995
Start Date      2013/03/11
Start Time      08:02:29
Service Point   tduser.bcd1dsst
UTC Start Time  513dc7d5

Rows 1 to 11 of 11
Monday March 11 2013
01/002

```

Figure 170: Hub Overview (KOBHBSTO) workspace

## Displaying products installed on a hub

You can use the **Installed TEMS Applications** workspace to see the products that are installed on a specific hub Tivoli Enterprise Monitoring Server.

### About this task

This procedure shows you how to view all of the installed products on a specific hub that is available from this workspace.

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace” on page 992](#).

### Procedure

- From the **All Known Hubs** (KOBHUBS) workspace use one of the following methods to go to the **Installed TEMS Applications** (KOBAPPS) workspace:
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **Products installed in this Hub** from the **Options Menu**.
  - Place your cursor next to the hub monitoring server name that you are interested in, type P and press **Enter**.

The **Installed TEMS Applications** workspace is displayed.



Figure 171: Installed TEMS Applications (KOBAPPS) workspace

## Displaying Data Retrieval Agents (DRA) for a hub

You can use the **Data Retrieval Agents (DRA)** workspace to see the data retrieval agents for a specific hub Tivoli Enterprise Monitoring Server.

### About this task

Data Retrieval Agents (DRA) are enhanced 3270 user interface components that manage the SQL queries sent from the user interface address space to a hub monitoring server. The DRA components do not gather performance data from Managed Systems: They manage the interactions between the user interface and the hub monitoring server address spaces. DRA components run within the hub monitoring server, Remote Tivoli Enterprise Monitoring Servers, and Tivoli Enterprise Monitoring Agents. DRA components are only on z/OS systems.

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace” on page 992](#).

### Procedure

- From the **All Known Hubs (KOBHUBS)** workspace use one of the following methods to go to the **Data Retrieval Agents (KOBHBDRA)** workspace:
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **DRAs connected to Hub** from the **Options Menu**.
  - Place your cursor next to the hub monitoring server name that you are interested in, type A and press **Enter**.

The **Data Retrieval Agents (DRA)** workspace is displayed.

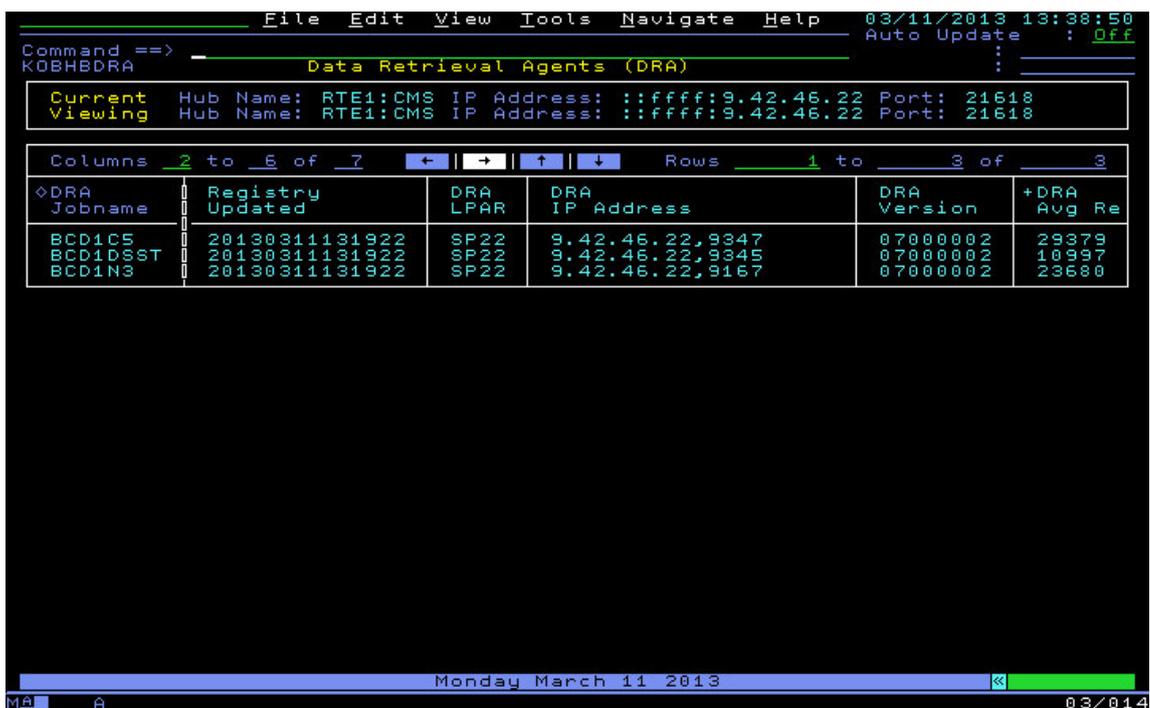


Figure 172: Data Retrieval Agents (KOBHEDRA) workspace

## Displaying Managed System Lists (MSL) for a hub

You can use the **Managed Systems** workspace to see Managed System Lists for a specific hub Tivoli Enterprise Monitoring Server.

### About this task

This procedure shows you how to view all of the Managed System Lists (MSLs) for a specific hub that is available from this workspace.

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace” on page 992](#).

### Procedure

- From the **All Known Hubs** (KOBHUBS) workspace use one of the following methods to go to the **Managed System Lists** (KOBHBMSL) workspace:
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **MSLs known by Hub (Managed System Lists)** from the **Options Menu**.
  - Place your cursor next to the hub monitoring server name that you are interested in, type L and press **Enter**.

The **Managed System Lists** workspace is displayed.



Figure 173: Managed System Lists (KOBHMSL) workspace

## Displaying Managed System Names (MSN) for a hub

You can use the **Managed Systems** workspace to see Managed System Names for a specific hub Tivoli Enterprise Monitoring Server.

### About this task

An important characteristic of a hub monitoring server is the Managed System Names (MSNs) that are managed by that hub. These Managed Systems are the entities that are being monitored by Tivoli Monitoring *agents*. This procedure shows you how to view the Managed System Names (MSNs) that are managed by a specific hub.

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace” on page 992](#).

### Procedure

- From the **All Known Hubs** (KOBHUBS) workspace use one of the following methods to go to the **Managed Systems** (KOBHMSN) workspace:
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **MSNs known by Hub (Managed System Names)** from the **Options Menu**.
  - Place your cursor next to the hub monitoring server name that you are interested in, type N and press **Enter**.

The **Managed Systems** workspace is displayed:



Figure 174: Managed Systems (KOBHMSN) workspace

## IBM Tivoli Monitoring (ITM) Service Index

You can use the **ITM Service Index** workspace to see, and interact, with a list of IBM Tivoli Monitoring *Service Points* for a specific hub Tivoli Enterprise Monitoring Server.

### Before you begin

Go to the **All Known Hubs** (KOBHUBS) workspace. For more information, see [“Changing a hub server connection”](#) on page 987.

### About this task

The IBM Tivoli Monitoring (ITM) Service Index is a feature that displays a list of IBM Tivoli Monitoring *Service Points*. A user can interact with these IBM Tivoli Monitoring *Service Points*. The **ITM Service Index** is normally accessed from a Web Browser running under Microsoft Windows, Linux, or UNIX, but can now be accessed directly from the enhanced 3270 user interface.

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace”](#) on page 992.

### Procedure

- From the **All Known Hubs** (KOBHUBS) workspace go to the **ITM Service Index** (KOBHNDX) workspace by using one of the following methods:
  - Place your cursor next to the hub Tivoli Enterprise Monitoring Server name that you are interested in, type / and press **Enter**, then select **ITM Service Index for Hub** from the **Options Menu**.
  - Place your cursor next to the hub Tivoli Enterprise Monitoring Server name that you are interested in, type I and press **Enter**

The **ITM Service Index** workspace is displayed.



Figure 175: ITM Service Index (KOBHBNDX) workspace.

## IBM Tivoli Monitoring (ITM) Service Index (secure HTTPS)

You can use the **ITM Service Index** workspace (secure HTTPS) to see, and interact, with a list of IBM® Tivoli® Monitoring *Service Points* for a specific hub Tivoli Enterprise Monitoring Server.

### Before you begin

Go to the **All Known Hubs** (KOBHUBS) workspace. For more information, see [“Changing a hub server connection”](#) on page 987

### About this task

When you use the IBM® Tivoli® Monitoring Service Console and IBM® Tivoli® Monitoring SOAP Server workspaces within the Tivoli® OMEGAMON® Manager, you must supply a **user ID** and **password**. This information is sent to a Tivoli Enterprise Monitoring Server. The **user ID** and **password** (and the Service Console or SOAP commands and their results) are normally sent in "clear text" using TCP/IP and the HTTP protocol. HTTP is normally used by web browsers and servers. For the Tivoli® OMEGAMON® Manager, the Tivoli® OMEGAMON® Manager is acting as an HTTP client, like a web browser, while the monitoring server is the HTTP server.

If you want these values (especially the **password**) to be sent in encrypted form instead of clear text, you must use the secure version of these Tivoli® OMEGAMON® Manager workspaces. To be able to use the secure versions of these Tivoli® OMEGAMON® Manager workspaces, your Tivoli® OMEGAMON® Manager address space must be able to use the Hypertext Transfer Protocol Secure (HTTPS) communications protocol. HTTPS is the normal HTTP protocol, but uses SSL/TLS (Secure Sockets Layer and Transport Layer Security) to send information. The Tivoli® OMEGAMON® Manager address becomes enabled to use HTTPS by identifying the Tivoli® OMEGAMON® Manager address space to TCP/IP as a user of AT-TLS (Application Transparent-Transport Layer Security).

You identify your Tivoli® OMEGAMON® Manager address spaces as valid users of AT-TLS by creating or modifying an AT-TLS policy file and then refreshing a z/OS component that is known as the Policy Agent, which reads the updated policy file.

For more information about AT-TLS configuration, see *IBM Tivoli OMEGAMON for z/OS: Planning and Configuration Guide*.

### Procedure

- From the **All Known Hubs** (KOBHUBS) workspace, use one of the following methods to go to the **ITM Service Index** (KOBHBNDX) workspace:

- Place your cursor next to the hub Tivoli Enterprise Monitoring Server name that you are interested in, type / and press **Enter**, then select **ITM Service Index for Hub (secure HTTPS)** from the **Options Menu**.
- Place your cursor next to the hub Tivoli Enterprise Monitoring Server name that you are interested in, type J and press **Enter**

The **ITM Service Index** workspace is displayed.

## Displaying hub topology

You can use the **Hub Topology** workspace to see information about nodes that are known to the hub monitoring server.

## About this task

This procedure shows you how to view and filter information about nodes that are known to the hub monitoring server

For more information about the **All Known Hubs** workspace, see [“The All Known Hubs workspace” on page 992](#).

## Procedure

1. From the **All Known Hubs (KOBHUBS)** workspace use one of the following methods to go to the **Hub Topology (KOBHTPO)** workspace:
  - Place your cursor next to the hub monitoring server name that you are interested in, type / and press **Enter**, then select **Topology: Nodes known to this Hub** from the **Options Menu**.
  - Place your cursor next to the hub monitoring server name that you are interested in, type T and press **Enter**.

The **Hub Topology** workspace is displayed.

Origin Node	Managing System	Prd	On	Version
<b>Hub and Remote TEMS</b>				
omeghahub14	omeghahub14	EM	Y	06.30.01
SP22RTEMS	omeghahub14	EM	Y	06.30.01
<b>TEPS</b>				
p505ha20:TEPS	omeghahub14	CCQ	Y	06.23.03
p505ha06:TEPS	omeghahub14	CCQ	Y	06.23.04
TVT6018:TEPS	omeghahub14	CCQ	Y	06.30.01
<b>DRA (e3270ui agent)</b>				
LPAR400J:SP22:VHFQWI@L:K	SP22RTEMS	0B	Y	07.00.00
LPAR400J:SP22:VHFN3I@L:K	SP22RTEMS	0B	Y	07.00.00
LPAR400J:SP22:VHFC5I@L:K	SP22RTEMS	0B	Y	07.00.00
LPAR400J:SP22:VHFDSI@L:K	SP22RTEMS	0B	Y	07.00.00
LPAR400J:SP22:VHF15I@L:K	SP22RTEMS	0B	Y	07.00.00
LPAR400J:SP22:VHFDSI@L:K	SP22RTEMS	0B	Y	07.00.00
LPAR400J:SYS:VHFGWG@L:KO	omeghahub14	0B	Y	07.00.00
LPAR400J:SYS:VHFC5G@L:KO	omeghahub14	0B	Y	07.00.00
<b>CICS</b>				
SYS_.CICSR51A	RKCPXM08:SYS_:CPIRA	CP	Y	05.30.00
RKCPXM06:SP22:CPIRA	SP22RTEMS	CP	Y	05.30.00
SP22.CICSRH45	RKCPXM06:SP22:CPIRA	CP	Y	05.30.00

Figure 176: **Hub Topology** workspace

2. Optional: To see only online nodes, type a non-blank character in the **Online** field and leave the **Offline** field empty.
3. Optional: To see only offline nodes, type a non-blank character in the **Offline** field and leave the **Online** field empty.
4. Optional: To see both online and offline nodes, type a non-blank character in both the **Offline** and **Online** fields.

**Tip:** You can clear the **Online** and **Offline** fields by typing a space in them.

5. Optional: To limit the rows that are displayed, type `include=value`, `exclude=value`, or both in the **Options** field.  
The *value* string must match part of a row value for the row to be included or excluded from the workspace display. If you want to use embedded blanks as part of the *value* string, you must enclose the entire *value* string in single or double quotations. The case of the *value* string (uppercase or lowercase) must match the row data exactly. The `include` and `exclude` keywords can be in lowercase or uppercase. Empty spaces are not allowed on either side of the equal sign.  
The following table contains some example **Options** entries:

Example filter entries in the **Options** field.

Filter condition	Options
Show only rows that contain <i>DB2</i> .	<code>include=DB2</code>
Show only rows that contain <i>M5</i> preceded and followed by an empty space. For example, the <b>Prd</b> (Product) column entries in the workspace for the <i>M5</i> product.	<code>include=' M5 '</code>
Show only Hub or remote monitoring servers but exclude any at version=06.23.03	<code>include=' EM ' exclude=06.23.03</code>
Show only nodes on Windows™ systems.	<code>include=' Win'</code>

## Troubleshooting

The troubleshooting section provides problem determination and resolution for the issues that are most commonly encountered with the OMEGAMON® Enhanced 3270 user interface. Review the troubleshooting topics for a description of a problem you might experience with rendering OMEGAMON® monitoring agent data on the enhanced 3270UI. For issues encountered with specific OMEGAMON® monitoring agents, consult the troubleshooting guide for that product.

### Use of DBCS characters in near term history situation names

Exercise caution when you are working with history situation names that use a double-byte character set (DBCS).

#### Problem description

Situation names for near term history collections can be created and edited both on the enhanced 3270UI and the Tivoli Enterprise Portal Server. The portal server supports the use of double-byte character set (DBCS) characters, however, the enhanced 3270UI does not.

A DBCS supports national languages that contain many unique characters or symbols. Examples of such languages include Japanese, Korean, and Chinese.

Near term history situation names that are created with DBCS characters on a portal server appear garbled on the enhanced 3270UI. For example, the name displays control and other characters that do not make sense. You can edit the situation names on the enhanced 3270UI, however, do not attempt to do this as the original name is then corrupted on the portal server.

Symptoms of this problem are that historical collection situation names that use DBCS characters become corrupted on the Tivoli Enterprise Portal Server when they are edited with the enhanced 3270UI.

#### Solution

Use one of the following workarounds:

1. Use only the Tivoli Enterprise Portal Server to change history collection names that use DBCS characters.

2. Change the history collection name to one that does not use DBCS characters.

## No data condition on the OMEGAMON® Enhanced 3270 user interface

The OMEGAMON® Enhanced 3270 user interface (enhanced 3270UI) is installed and configured. The enhanced 3270UI address space is started and you are able to log on. However, your enhanced 3270UI is showing an empty workspace.

### Possible causes for the no data condition

There are a few causes for the no data condition after the initial log on to the OMEGAMON Enhanced 3270 user interface.

The following figure provides an example of the OMEGAMON Enhanced 3270 user interface initial workspace, KOBSTART, depicting a case of no data after the initial log on:

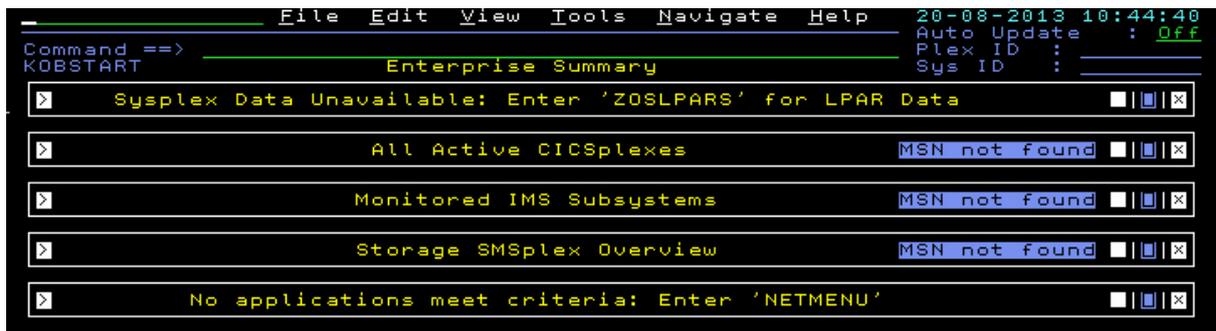


Figure 177: OMEGAMON Enhanced 3270 user interface workspace depicting a case of no data after the initial log on

**Note:** The initial workspace parameter setting is specified in the log on profile with the **FIRSTWS** parameter.

You can use the capability in the OMEGAMON Enhanced 3270 user interface for investigating the root cause of the no data condition.

## Custom log on profiles have not been created or the hub monitoring server settings have not been configured

Depending on the version of the enhanced 3270UI that you are using there are different procedures that you can use to troubleshoot this issue.

### Tivoli Management Services V6.3.2 (APAR OA42127) or later

Hub Connectivity Administration assists you to specify and save a hub Tivoli Enterprise Monitoring Server connection.

#### About this task

When you log on to the enhanced 3270 user interface for the first time, Hub Connectivity Administration can assist you to specify a hub Tivoli Enterprise Monitoring Server connection.

#### Procedure

1. Log on to the user interface in the standard way.  
If a hub monitoring server is specified in your profile, and that hub is available, a connection is made to the hub and your initial workspace is displayed. By default, the initial workspace is the **Enterprise Summary (KOBSTART)** workspace. If a hub monitoring server is not specified in your profile, the **Hub Connectivity Administration** workspace is displayed.

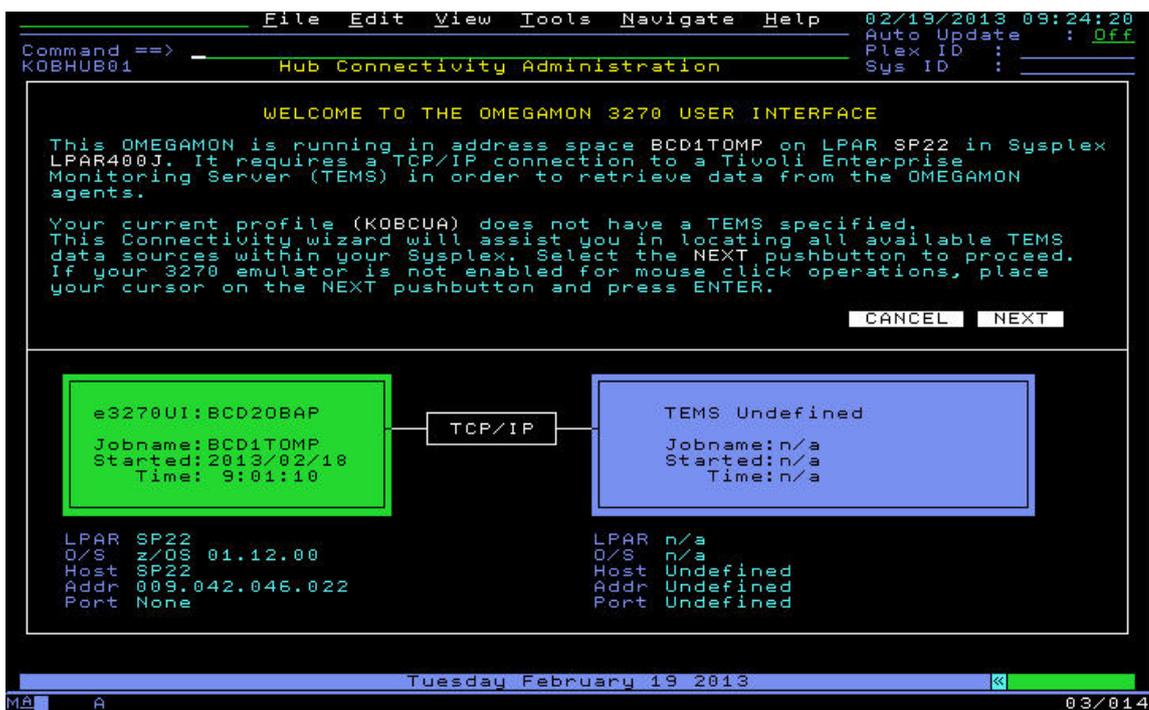


Figure 178: Hub Connectivity Administration workspace that shows a hub connection is not specified for the current profile

- To select the **NEXT** icon on the **Hub Connectivity Administration** workspace, move your cursor to the icon and press **Enter** or double-click the icon. The **All Known Hubs (KOBHUBS)** workspace is displayed showing all of the available hubs that are known to the enhanced 3270 user interface.



Figure 179: Hub Connectivity Administration All Known Hubs (KOBHUBS) workspace

**Tip:** You can browse overview status information about each hub from this workspace. For more information about the **All Known Hubs (KOBHUBS)** workspace, see [“The All Known Hubs workspace”](#) on page 992.

3. On the **All Known Hubs (KOBHUBS)** workspace, place your cursor next to a hub monitoring server name and press **Enter**.  
The **Action Confirmation** panel is displayed. The panel lists information about the hub monitoring server to be used for your workspace queries. On the **Action Confirmation** panel, you can enter Y to confirm the action or N to cancel the action.
4. Enter Y to confirm the action. The **Hub Verification Complete (KOBHUB04)** workspace is displayed and shows two green information boxes that indicate a successful TCP/IP connection.

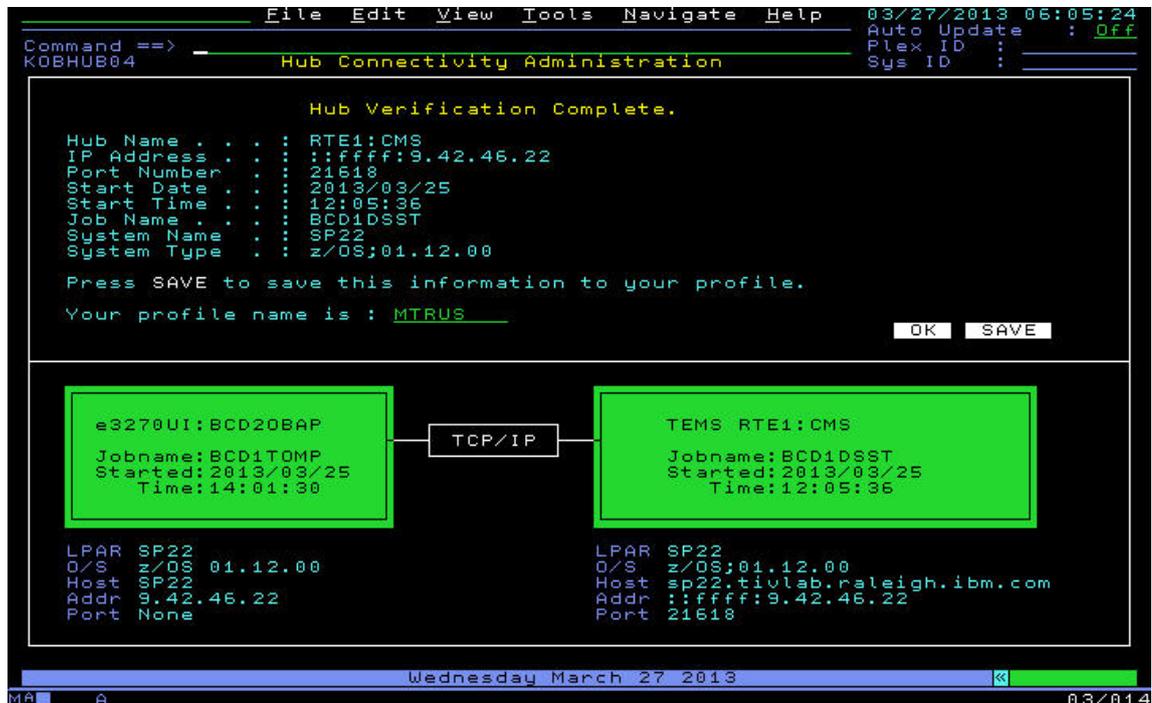


Figure 180: **Hub Verification Complete (KOBHUB04)** workspace that shows a successful hub connection

- a. To save the hub monitoring server name to your user profile, select **SAVE**.
- b. To use the selection for your current enhanced 3270 user interface session, select **OK**.

## Result

Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

## Tivoli Management Services V6.3 or earlier (pre-APAR OA42127)

Verify that you created your site and or user\_ID named logon profile members.

## About this task

Use the OMEGAMON Enhanced 3270 user interface to assign values for your site and or user ID named logon profile.

## Procedure

1. From the OMEGAMON Enhanced 3270 user interface, select **View > 2. Hub Information**. The **Current Hub TEMS Information** panel is displayed.  
If you see a panel similar to the following panel that indicates no values are assigned, either no site and or user ID-named logon profile is created, or the profile for this session is not customized to specify hub monitoring server settings.

```

File Edit View Tools Options Help 08/2
Auto
Plex
Sys
Data

Command ==>
KOBSTART

> Syspl Name . . . : Unassigned
IP Address. : Unassigned
IP Port . . : None

>

```

Figure 181: Tivoli Enterprise Monitoring Server information with no settings specified

- a. Verify that a site (CUASITE) or user\_ID named data set member exists in rte.UKOBDATF.
  - b. Verify that the hub monitoring server settings in the profile for the current session is customized to specify the hub monitoring server configured values.  
For example, see “Figure: Current hub Tivoli Enterprise Monitoring Server settings” on page 1009.
2. After you customize the logon profile member, log off the OMEGAMON Enhanced 3270 user interface and log on to pick up the profile changes.

## Result

If you repeat Step 1, you see the hub settings that you specified as shown in the following panel.

```

File Edit View Tools Options Help 08/21/2
Auto Up
Plex ID
Sys ID
Data
No

Command ==>
KOBSTART

> Syspl Name . . . : RTE1.CMS
IP Address. : ::ffff:9.42.46.22
IP Port . . : 21618

>

```

Figure 182: Current hub Tivoli Enterprise Monitoring Server settings

## The hub monitoring server settings in the log on profile do not match the hub monitoring server configured values

Depending on the version of the enhanced 3270UI that you are using there are different procedures that you can use to troubleshoot this issue.

### Tivoli Management Services V6.3.2 (APAR OA42127) or later

**Hub Connectivity Administration** helps you to correct any failed connection situations that prevent you from accessing the OMEGAMON enhanced 3270 user interface and your subsequent product workspaces.

### About this task

When you log on to the user interface, if the hub monitoring server connection attempt fails, the **Hub Connectivity Administration** workspace is displayed and notifies you that a failure occurred and the possible reason for the connection failure. The workspace helps you to correct the connection failure and to save a corrected profile to prevent future failures.

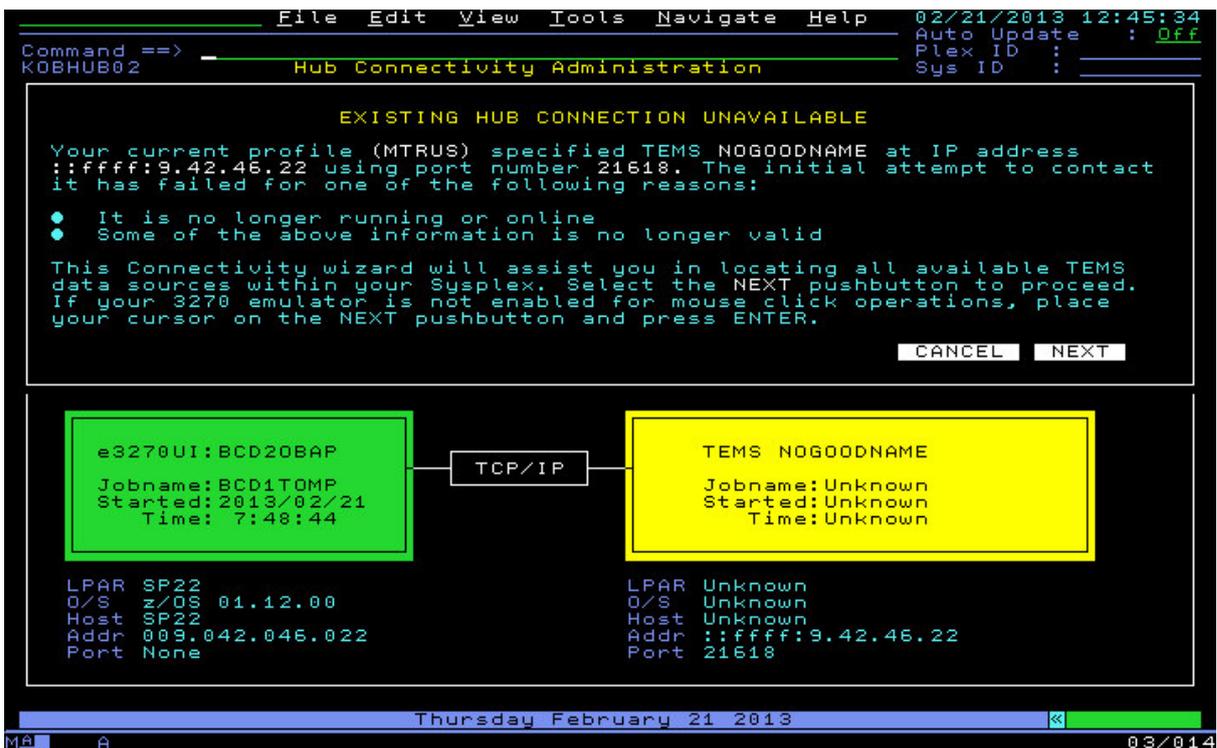


Figure 183: Hub Connectivity Administration workspace that shows a connectivity failure

**Tip:** If this is your first time logging on to the user interface and a hub monitoring server is not specified in your profile, you see the **Hub Connectivity Administration** workspace but with a different message that states the reason for the failure. If the message indicates that your current profile does not have a hub specified, see [“The hub monitoring server settings in the log on profile do not match the hub monitoring server configured values”](#) on page 1009.

## Procedure

1. On the **Hub Connectivity Administration** workspace that shows the connectivity failure, select the **NEXT** icon by moving your cursor to the icon and pressing **Enter** or moving your mouse to the icon and selecting it.  
The **All Known Hubs (KOBHUBS)** workspace is displayed showing all of the available hubs that are known to the user interface.



Figure 184: Hub Connectivity Administration All Known Hubs (KOBHUBS) workspace

**Tip:** You can browse overview status information about each hub from this workspace. For more information about the **All Known Hubs (KOBHUBS)** workspace, see “The All Known Hubs workspace” on page 992.

- On the **All Known Hubs (KOBHUBS)** workspace, place your cursor next to a hub monitoring server name and press **Enter**.  
The **Action Confirmation** panel is displayed. The panel lists information about the hub monitoring server to be used for your workspace queries. On the **Action Confirmation** panel, you can enter Y to confirm the action or N to cancel the action.
- Enter Y to confirm the action. The **Hub Verification Complete (KOBHUB04)** workspace is displayed and shows two green information boxes that indicate a successful TCP/IP connection.

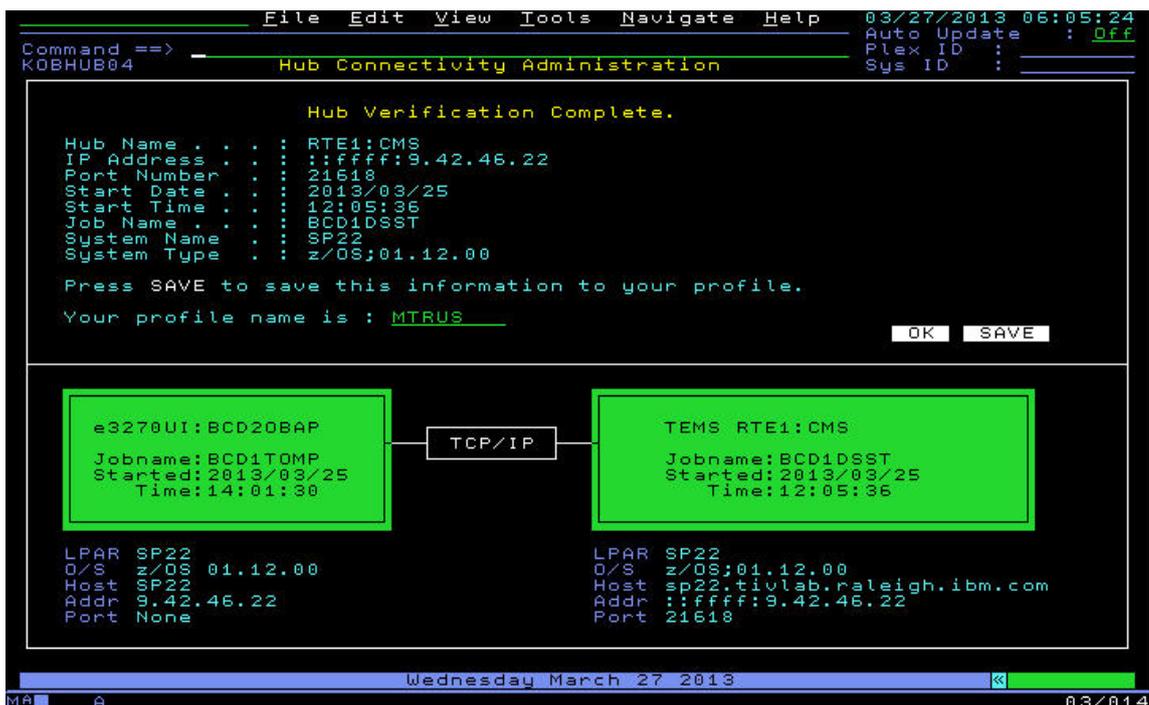


Figure 185: Hub Verification Complete (KOBHUB04) workspace that shows a successful hub connection

- a. To save the hub monitoring server name to your user profile, select the **SAVE** icon.
- b. To use the selection for your current user interface session, select the **OK** icon.

## Result

Your session goes to the first workspace name specified in your logon profile, by default the **Enterprise Summary (KOBSTART)** workspace.

### Tivoli Management Services V6.3 or earlier (pre-APAR OA42127)

Verify that the `rte.UK0BDATF` profile members specify the configured hub monitoring server settings and that these settings match the hub monitoring server configured values.

The settings that are shown in the **Current Hub TEMS Information** panel in “[Figure: Current hub Tivoli Enterprise Monitoring Server settings](#)” on page 1009 indicate that a custom profile member is created and customized; however, the no data condition persists. Inspect the profile for the current session to determine if the specified settings match the configured hub monitoring server settings.

For example, “[Figure: Current hub Tivoli Enterprise Monitoring Server settings](#)” on page 1009 shows that the server name is set to `RTE1.CMS`, with a period. However, the actual configured hub monitoring server name is `RTE1:CMS`, with a colon.

Correct the settings in the `rte.UK0BDATF` profile member, then log off and log on to the OMEGAMON Enhanced 3270 user interface to pick up the profile changes.

The **Current Hub TEMS Information** panel displays the correct settings as shown in the following example:

Systemplex Name	CPU Percent	LPAR Name	LPAR CPU%	VMSU Capacity	LPAR Group Name
_ RTE1PLEX	7	CANSP22	7	17.0	CANDLE

ΔCICSplex Name	ΔNumber of Regions	ΔTransaction Rate	ΔCPU Utilization	Any SOS Regions	SOS Region
_ OMEGPlex	2	0/m	0.0%	No	n/a

Figure 186: The current hub Tivoli Enterprise Monitoring Server information with the correct server name

### There are no OMEGAMON Enhanced 3270 user interface data retrieval agents registered

Verify that there are registered OMEGAMON Enhanced 3270 user interface data retrieval agents online.

The OMEGAMON Enhanced 3270 user interface startup process discovers WLM-registered data retrieval agents and connects to the data retrieval agents to retrieve hub monitoring server information about OMEGAMON agent data sources. This information is stored in the OMEGAMON Enhanced 3270 user interface local registry. By default, the registry information is refreshed every 5 minutes.

If you verified the existence of a custom profile, in which the hub monitoring server settings are correctly specified, but the no data condition persists, you need to verify that there are registered data retrieval agents.

From the OMEGAMON Enhanced 3270 user interface, you can open a workspace that displays DRA information. Use the following procedure to open the workspace.

## Procedure

From the **All Known Hubs** (KOBHUBS) workspace, place your cursor next to the hub monitoring server name that you are interested in, type A and press **Enter**.

The **Data Retrieval Agents (DRA)** workspace is displayed.

DRA Jobname	Registry Updated	DRA LPAR	DRA IP Address	DRA Version	+DRA Avg Re
BCD1C5	20130311131922	SP22	9.42.46.22,9347	07000002	29379
BCD1DSST	20130311131922	SP22	9.42.46.22,9345	07000002	10997
BCD1N3	20130311131922	SP22	9.42.46.22,9167	07000002	23680

Figure 187: Data Retrieval Agents (KOBHBDRA) workspace.

The three rows that are shown in the **Data Retrieval Agents (DRA)** workspace indicate that there are three registered data retrieval agents for the hub monitoring server as RTE1:CMS running in the *same* Sysplex as the OMEGAMON Enhanced 3270 user interface address space. Assuming that there are no problems with agent data collection, the OMEGAMON Enhanced 3270 user interface is able to connect to any one of these data retrieval agents to retrieve OMEGAMON data from a V5.1.0 or later monitoring agent that is connected to the RTE1:CMS hub monitoring server.

If data retrieval agents are not registered for a specific hub monitoring server, the KOBHBDRA workspace is empty.

If the **All Known Hubs** (KOBHUBS) workspace list does *not* contain the hub monitoring server that is specified in the OMEGAMON Enhanced 3270 user interface logon profile, a high probability exists that the OMEGAMON for z/OS agents and or related monitoring server address space are offline.

## The hub monitoring server is off line; verify initialization and data request reception

Verify the hub monitoring server is started, initialized, and prepared to receive data requests; listening on the configured TCP/IP port.

Your hub monitoring server might be running on either a z/OS LPAR or on a distributed system. Verify that the monitoring server has been started and has successfully completed initialization.

The following monitoring server log messages are a good indication regarding the health of hub monitoring server operations:

```

..
KDSMA001 Tivoli Enterprise Monitoring Server (TEMS) data collection server started
...
K04SRV032 Tivoli Enterprise Monitoring Server (TEMS) startup complete
..

```

If you cannot find these messages in the hub monitoring server log, examine the log for indications of potential problems. For example:

- The monitoring server startup is in progress and initialization has not completed
- The monitoring server initialization failed; for example, the monitoring server was not able to bind to its configured TCP/IP port
- The monitoring server is not properly configured
- Unexpected messages in the monitoring server log

See the “Monitoring server troubleshooting” section of this book for more information.

## Application product support (seed data) has not been added to the hub monitoring server

Verify the hub monitoring server has the product version (for example, V5.1.0) application support (seed data) loaded.

If you did not complete this configuration step, your OMEGAMON Enhanced 3270 user interface might be missing data for one or more OMEGAMON products.

For a hub monitoring server on a z/OS system, see the “Adding application support to a monitor server on z/OS” section in the *IBM Tivoli Monitoring Installation and Setup Guide*.

For a hub monitoring server on a distributed system, see the “Installing application support on monitoring server” section in the *IBM Tivoli Monitoring Installation and Setup Guide*.

**Note:** The following message, which shows an example of the OMEGAMON for CICS log, might appear in the OMEGAMON Enhanced 3270 user interface when the add application support configuration step has not been completed; this might also be true when the add application support step was completed after the initial startup of the product agent. For the later case, the hub Tivoli Enterprise Monitoring Server and agent should be recycled after performing the add application support step.

```
...  
RRUIA-DMSL: MSL "KCP_CICSplex_CICSPLXS" does not exist or contains no online  
accessible MSNs.  
...
```

**Note:** The V5.1.0 product application support files must also be loaded in the run time environment libraries that are associated with the OMEGAMON Enhanced 3270 user interface started task. For a new or upgraded run time environment, the run time environment load configuration step updates the application support.

You will see the following messages in the OMEGAMON Enhanced 3270 user interface log file when the application support files are back-leveled or missing:

```
...  
KOBUIGP1I Source ODI does not contain table Kppxxxxx ...  
KOBUIGP9I ERROR: No ODI will cause an erroneous display ...  
KOBUIGP1W ODI Failure ignoring SORTCOLS='...'  
...
```

Also, see “[The OMEGAMON Enhanced 3270 user interface local registry does not contain required agent information](#)” on page 1016.

## The OMEGAMON monitoring agent is offline or is not started

You can employ multiple methods to investigate the online status of an OMEGAMON agent.

One method is to examine the content of the local registry.

**Tivoli Management Services 6.3.1 (APAR OA42127) or later**

From the **All Known Hubs (KOBHUBS)** workspace, place your cursor next to the hub monitoring server name that you are interested in, type N and press **Enter**. The **Managed Systems** workspace is displayed and lists the available names of the local registry managed systems. The information that is displayed is similar to that shown in “[Figure: Only Managed Systems panel that lists the available names of the local registry.](#)” on page 1015.

#### Tivoli Management Services 6.3 or earlier (pre-APAR OA42127)

From the OMEGAMON Enhanced 3270 user interface, select **View > 4. Managed Systems**. The **Only Managed Systems** panel is displayed and lists the available names of the local registry managed systems.



Figure 188: **Only Managed Systems** panel that lists the available names of the local registry.

The various OMEGAMON monitoring agents employ unique conventions to identify agents and managed systems. For example, in the previous figure, the rows that display names that end in **:MVSSYS** and **:SYSPLEX** along with a **Y** in the **MS Online Status** column are an indication that OMEGAMON for z/OS agents are online, which means the interface can retrieve data for the product.

The following table lists the conventions that are used by individual OMEGAMON products to compose managed system names.

Table 76: Managed System naming conventions for OMEGAMON products	
Product name	Managed System naming convention
OMEGAMON for z/OS	<ul style="list-style-type: none"> <li>SYSPLEX:SYSPLEX:PLEXVIEW</li> <li>sysplex_name:MVS:SYSPLEX</li> <li>sysplex_name:lpar_smfID:MVSSYS</li> </ul>
OMEGAMON for CICS	<ul style="list-style-type: none"> <li>cics_region_name:lpar_smfID:CPIRA</li> <li>cics_region_name:lpar_smfID:CEIRA</li> <li>cics_tg_ID:lpar_smfID:CICSTG</li> </ul>
OMEGAMON for Db2 PE	<ul style="list-style-type: none"> <li>DB2plex:DB2plex:Plexview</li> <li>db2_ID:lpar_smfid:DB2</li> <li>XEDB2:lpar_smfid</li> </ul>

Product name	Managed System naming convention
OMEGAMON for IMS on z/OS	<ul style="list-style-type: none"> <li>• IMSplex:IMSplex:Plexview</li> <li>• ims_ID:lpar_smfid:CONNECT</li> <li>• ims_ID:sysplex_name:SQGROUP</li> <li>• ims_ID:lpar_smfid:IMS</li> <li>• XEIMS:lpar_smfid:MVS</li> </ul>
OMEGAMON for Networks	<ul style="list-style-type: none"> <li>• agent_jobname:lpar_smfid:KN3AGENT</li> <li>• tcpip_ID:lpar_smfid</li> <li>• vtam_ID:lpar_smfid</li> </ul>
OMEGAMON for Messaging	<ul style="list-style-type: none"> <li>• mq_ID:lpar_smfid:MQESA</li> </ul>
OMEGAMON for Storage on z/OS	<ul style="list-style-type: none"> <li>• agent_jobname:lpar_smfid:STORAGE</li> </ul>

When you examine the **Managed Systems** (KOBHBMSN) workspace or the **Only Managed Systems** (KOBMSNS) workspace content and it indicates that there are no online agents for a specific product, examine the agent address space to verify that it is started and it is successfully initialized online. In some cases, it might be necessary to verify that the corresponding monitored systems or subsystems (for example, CICS regions) are also running.

### The OMEGAMON Enhanced 3270 user interface local registry does not contain required agent information

The OMEGAMON Enhanced 3270 user interface local registry must have accurate information about the configuration of the environment to enable the composition and routing of data queries to appropriate OMEGAMON agent managed systems.

The registry is initially populated during the address space initialization process and thereafter, by default, at 5-minute intervals.

Given the startup considerations for OMEGAMON monitoring components and monitored systems and or subsystem, it is possible for the local registry content to take up to 10 minutes to stabilize; assuming you have fairly stable configuration.

Use the **Options** menu of the enhanced 3270UI to examine the local registry.

Examine the following items:

- Verify the existence of online registered enhanced 3270UI data retrieval agents. From the **All Known Hubs** (KOBHUBS) workspace, place your cursor next to the hub monitoring server name that you are interested in, type A and press **Enter**. The **Data Retrieval Agents** workspace must contain a minimum of one data retrieval agent row to enable data retrieval.

- Verify the existence of the OMEGAMON agent list for managed systems:

#### **Tivoli Management services 6.3.1 (APAR OA42127) or later**

From the **All Known Hubs** (KOBHUBS) workspace, place your cursor next to the hub monitoring server name that you are interested in, type L and press **Enter**. The **Managed System Lists** workspace lists the rows with managed system list names. The information that is displayed is similar to that shown in [“Figure: Online Managed Systems Lists panel of the local registry” on page 1017](#)

#### **Tivoli Management services 6.3 or earlier (pre-APAR OA42127)**

Select **View > 5. Managed Systems Lists**. For example:

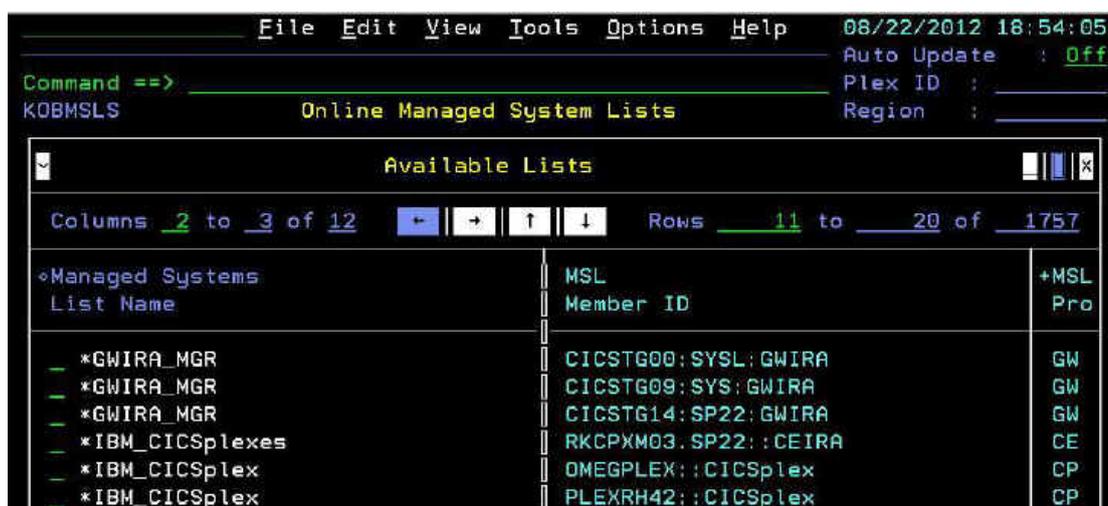


Figure 189: Online Managed Systems Lists panel of the local registry

The Online Managed Systems Lists workspace lists the rows with managed system list names.

The following table lists the naming conventions for the OMEGAMON products of the managed systems list names:

Product	Managed System List naming convention
OMEGAMON for z/OS	<ul style="list-style-type: none"> <li>*MVS_SYSPLEX</li> <li>*MVS_SYSTEM</li> </ul>
OMEGAMON for CICS	<ul style="list-style-type: none"> <li>*CPIRA_MGR *GWIRA_MGR</li> <li>*IBM_CICSplexes</li> <li>*IBM_CICSplex</li> <li>*MVS_CICSTG</li> <li>*MVS_CICS</li> <li>KCP_CICSplex_plex_name</li> </ul>
OMEGAMON for Db2 PE	*MVS_DB2
OMEGAMON for IMS on z/OS	<ul style="list-style-type: none"> <li>*MVS_IMSPLEX</li> <li>KIP_ims_system_IMS</li> </ul>
OMEGAMON for Networks	<ul style="list-style-type: none"> <li>*OMEGAMONXE_MAINFRAME_NTWK_TCP</li> <li>*OMEGAMONXE_MAINFRAME_NTWK_VTAM</li> <li>*OMEGAMONXE_MAINFRAME_NTWK</li> </ul>
OMEGAMON for Messaging	mq_ID:lpar_smfid:MQESA
OMEGAMON for Storage on z/OS	agent_jobname:lpar_smfid:STORAGE

- Verify the existence of online OMEGAMON agents managed systems:

**Tivoli Management services 6.3.1 (APAR OA42127) or later**

From the **All Known Hubs** (KOBHUBS) workspace, place your cursor next to the hub monitoring server name that you are interested in, type N and press **Enter**. The **Managed Systems** workspace is displayed and lists the available names of the local registry managed systems.

**Tivoli Management services 6.3 or earlier (pre-APAR OA42127)**

Select **View > 4. Managed Systems**. The Only Managed Systems workspace (KOBMSNS) shows rows with managed system names.

See “The OMEGAMON monitoring agent is offline or is not started” on page 1014.

**Note:** In a case where the configuration is running multiple versions of the OMEGAMON for z/OS agents (V4.2.0 and V5.1.0), only remote server address spaces that are upgraded to the latest version can be configured as Sysplex-proxy-eligible. You might get a workspace notice that says, Sysplex Data Unavailable: Enter 'ZOSLPARS' for LPAR Data for the case where the Sysplex proxy is started in a back-leveled remote server address space. The result is that the OMEGAMON Enhanced 3270 user interface is unable to render Sysplex data.

**Note:** In the case where multiple instances of IBM Tivoli Monitoring configurations are running in a common Sysplex, the configurations must be configured with unique names; at least one of the configurations must provide an override Sysplex name (pseudo name) so that both configurations are able to start a Sysplex proxy (and agent). The workspace notice, Sysplex Data Unavailable: Enter 'ZOSLPARS' for LPAR Data can depict the case where these conditions are not satisfied and the Sysplex proxy is unable to start in one of the configurations; the result is that the OMEGAMON Enhanced 3270 user interface is unable to render Sysplex data for that Sysplex.

### Data retrieval delays/timeouts causing no data conditions

OMEGAMON enhanced 3270 user interface logs are written to the address space SYSPRINT DD statement.

By default, the OMEGAMON enhanced 3270 user interface is configured with the request timeout parameters shown in the following table:

Table 78: OMEGAMON enhanced 3270UI request timeout parameters		
Parameter name	Description	Defaults and overrides
QUERYTIMEOUT	User interface workspace query timeout	10 seconds  <div style="border: 1px solid black; padding: 5px;"><b>Note:</b> Some workspace queries are delivered with a timeout override; where the composition of data requests anticipates an elongated response.</div>
PNG_TIMEOUT	DRA ping health check (endpoint ping) timeout	One second
SO_TIMEOUT	DRA data request (socket) timeout	15 seconds
DIS_TIMEOUT	Registry refresh (discovery data request) timeout	Two seconds
CON_TIMEOUT	Conduit manager connect to a DRA socket timeout	If parameter <b>PNG_TIMEOUT</b> is specified, the <b>CON_TIMEOUT</b> parameter defaults to the value specified in <b>PNG_TIMEOUT</b> . If parameter <b>PNG_TIMEOUT</b> is not specified, the default value is one second.

These parameter defaults have been established for reasonable or normal operational conditions. There might be unique operational conditions in your environment where the defaults are not optimal. In that case, you can modify the defaults by creating customized OMEGAMON Enhanced 3270 user interface workspaces or specifying parameter overrides in the OMEGAMON Enhanced 3270 user interface environment parameters file (*rte*.RKANPARU (KOBENV)) that is referenced by the address space RKANPAR DD statement. It is recommended

that you use embed members so that your override settings persist. For more information, see [Enhanced 3270 user interface \(KOB\) parameters](#) .

Elongated response times when interacting with the OMEGAMON Enhanced 3270 user interface might be a symptom of timeout conditions. For example, during log on, the initial Enterprise Summary (KOBSTART) workspace might take a significant amount of time (more than a few seconds) to render and or the workspace is rendered with partial or no data.

**Note:** The following message is written to the SYSPRINT log files when request timeouts occur:

```
KOBCM0010E: conduit manager Recv Error, rc = -1, microseconds = nnnnnnnn
```

The following items identify the common causes for delay and or timeout conditions. Investigation of these conditions might be complex, this information provides you with some hints for further investigation:

- The hub monitoring server is running under degraded system conditions (heavy system workload or an under-capacity system) and is being delayed when attempting to service OMEGAMON Enhanced 3270 user interface data requests. In this example, examine the availability and priority of the system resources provided to the hub monitoring server.
- The OMEGAMON agent is running under degraded system conditions (heavy system workload or an under-capacity system) and is being delayed when attempting to service OMEGAMON Enhanced 3270 user interface data requests. In this example, examine the availability and priority of the system resources provided to the OMEGAMON agent.
- Data requests submitted from the OMEGAMON Enhanced 3270 user interface to a given Data Retrieval Agent, thorough a TCP/IP conduit, are being impacted by degraded network conditions. In this case, the availability, priority, and configuration of network resources and paths associated with communications between the OMEGAMON Enhanced 3270 user interface and the hub monitoring server and OMEGAMON agents should be examined.
- An OMEGAMON component (monitoring server or agent) that played a role in a given data request path has gone off-line; the LPAR was terminated, or the address space was terminated. In this case, "[The OMEGAMON Enhanced 3270 user interface local registry does not contain required agent information](#)" on [page 1016](#) to investigate the status of OMEGAMON components, (Managed Systems: on line or off line).
- The hub and or a remote monitoring server is experiencing operational issues and is being delayed when attempting to service OMEGAMON Enhanced 3270 user interface data requests. A misconfiguration or a special site or environmental configuration requirements might lead to operational issues. For example:
  - Operational issues might arise if a monitoring server running on a z/OS operating system is experiencing problems writing to its' Historical Persistent Datastore files.
  - Operational issues might occur if a monitoring server is unable to bind to its configured TCP/IP port number.
- The IP domain name resolution is not fully configured on the z/OS operating system where the OMEGAMON Enhanced 3270 user interface, Tivoli Enterprise Monitoring Server and or agent address spaces are running. Also, there might be more than one TCP/IP task running on the z/OS operating system; for these cases, the OMEGAMON address spaces, the OMEGAMON Enhanced 3270 user interface, Tivoli Enterprise Monitoring Server and or agent started task JCL procedures must specify the IP name resolution configuration data set to be specified through the SYSTCPD DDNAME statement.
- The hub Tivoli Enterprise Monitoring Server is running on a system that has multiple network interfaces and perhaps the preferred and or universally known interface is not being employed; this results in IP connection issues that manifest on the interface as a possible sporadic, no data condition. For more information related to this type of configuration, including the use of the **KDEB\_INTERFACELIST** parameter, see technote [KDEB\\_INTERFACELIST and it variants \("\\*" and "!\\*"\) are misunderstood](https://www.ibm.com/support/docview.wss?uid=swg21282474) (<https://www.ibm.com/support/docview.wss?uid=swg21282474>) .

## RAS1 Tracing

The following topics describe how to enable RAS1 tracing.

## Enabling RAS1 Tracing for the enhanced 3270UI

You can choose from several different types of tracing that can be enabled to debug the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) and Tivoli OMEGAMON Manager Address Space.

Tracing can be enabled at Tivoli OMEGAMON Manager startup, at user start, or dynamically turned on and off for either the Address Space or a particular user. Trace messages are produced in the Tivoli OMEGAMON Manager's SYSPRINT location, SYSTRACE DD location, or both.

**Note:** Tracing can cause excessive output to the Tivoli OMEGAMON Manager job log. Consult IBM Service Personnel for advice before you enable tracing.

An enhanced 3270UI user can use **TRACE** commands or pull-down menus to enable UI tracing. Both of these methods enable UI tracing for actions that are initiated only by that particular user. To enable tracing for the entire Tivoli OMEGAMON Manager Address Space, use modify commands to the Tivoli OMEGAMON Manager Address Space, or use enhanced 3270UI **TRACE** commands or pull-down menus.

The pull-down method is initiated by clicking (or positioning the cursor and pressing Enter) on the **Tools** pull-down. A pull-down menu appears where you can select either UI tracing or Address Space tracing.



After you select one of the tracing options, a **Trace** menu pop-up will display all of the components that can be selected for tracing.

The command method is initiated by entering a **TRACE** command on the command line, or the action line, on the enhanced 3270UI.

LPAR Name	ΔAverage ∇CPU Percent	Percent LPAR MSU Capacity	System Page Rate	Page Fault Rate	+CSA In U Percent
CANSP22	10	5.6	12.4	0.0	12.6

After you initiate tracing, a **TRACE** indicator is displayed in the drawer section of the footer.



Clicking (or positioning the cursor and pressing Enter) on the **TRACE** box displays the **Trace** menu where more tracing can be initiated, or turned off altogether.

Additionally, the **Modify** system command can be used to directly communicate with the Tivoli OMEGAMON Manager started task to start and stop address space level tracing. The syntax of the modify command is: /F tomjobname, TRACE KOBcomp n, where - tomjobname is the Tivoli OMEGAMON Manager started task name. *IBMTOM* is the default started task name. - comp is the component for which you want to start/stop tracing, and - n is the trace level, which can have the value 0 - 4. A trace level of 0 indicates that no tracing takes place, and disables tracing if it was already enabled. A trace level of 1 - 4 enables tracing; 1 generates the least number of trace messages, while 4 generates the most trace messages.

This table lists the pull-down options that are available to the user, and the corresponding **TRACE** and **modify** commands:

Options for UI tracing and Address Space tracing

<i>Table 79: Options for UI tracing and Address Space tracing</i>		
<b>UI trace pulldown options:</b>	<b>Corresponding TRACE command:</b>	<b>Corresponding modify command: (that is, /F IBMTOM, TRACE KOBcomp where n is the level of tracing)</b>
1. B Basic UI Flow of Control	TRACE BASIC	(not applicable)
2. V VTAM Data Stream Analysis	TRACE VTAM	(not applicable)
3. I Input Field Processing	TRACE INPUT	(not applicable)
4. P 3270 Presentation Services	TRACE 3270	(not applicable)
5. O Source ODI Interchange	TRACE ODI	(not applicable)
6. Q SQL and Live Data Analysis	TRACE DATA	(not applicable)
7. U Screen Popups	TRACE POPUP	(not applicable)
8. S Screen Scrolling	TRACE SCROLL	(not applicable)
9. R REXX Processing	TRACE REXX	(not applicable)
10. X Turn All UI Trace Off	TRACE OFF	(not applicable)
<b>Address Space pulldown options:</b>		
1. R Request Router	TRACE RR	TRACE KOBRRWKR 1, KOBRRUIA 1
2. C Conduit Manager	TRACE CM	TRACE KOBGWCND 1
3. G Registry	TRACE RG	TRACE KOBGWREG 1
4. T Status and Thresholding	TRACE ST	TRACE KOBTHRMT 1, KOBTHRSH 2
5. S Session Control	TRACE SC	TRACE KOBBOVAP 1, KOBGWOBV 2
6. W OMEGAMON Gateway	TRACE GW	TRACE KOBGATW0 1
7. O Binary ODI	TRACE BO	TRACE KOBODUTL 1, KOBODILD 1
8. A SAF Authorization	TRACE SAF	TRACE KOBACRAF 1
9. X Turn All Component Trace Off	TRACE MOFF	TRACE KOBcomp 0

## Enabling RAS1 Tracing at startup for an enhanced 3270UI user

You can initiate UI tracing at session startup for an enhanced 3270UI user by updating the TRACE statement in the user's UI profile.

### Procedure

1. Select **Edit > Preferences**
2. Click the **Session/Logon** tab. Alternatively, position the cursor over the **Session/Logon** tab and press Enter.
3. Change the **Engage Trace at session start** setting from *N* to *Y*.
4. Save the profile.
5. The user must re-login to the enhanced 3270UI.

### Result

Trace data is now collected during session startup.

**Note:** Be sure to change the **Engage Trace at session start** setting back to *N* when you finish debugging

## Enabling Address Space tracing at startup

You can initiate Address Space tracing for one or more components at startup.

To initiate Address Space tracing for one or more components at startup, add a TRACEV1 statement in the Tivoli OMEGAMON Manager's RKANPARU(KOBENV) member and specify the component (or components) and level of tracing.

For example:

```
TRACEV1=TRACE KOBxxxxx n
```

where:

- The variable *n* is the trace level and has a value of 0 - 4, where 0 indicates no tracing, 1 is the minimum amount of tracing and 4 is the most tracing.
- The value of KOBxxxxx is as follows:

```
KOBRRUIA KOBRRWKR KOB SOCK KOBTHRSR KOBTHRMT KOBODUTL KOBODISC KOBODILD KOB OBVAP
KOBGWREG
KOBGWOBV KOBGWLPA KOBGWCVA KOBGWCND KOBGATW0 KBCZDIO KBCWTOL KBCVSTG KBCUXIO
KOBCTREE
KOBCTHRD KOBCTRNR KOB CSTLB KOB CSTIO KOB CMAPI KOB CLOCK KOB CIOST KOB CIOBE KOB CENVV
KOB CENVG
KOB CDYNA KOB CDSIO KOB CMSG KOB CBLKQ KOB LISTN KOB CRACF KOB CUNIS KOB FLG01 KOB FLG02
KOB FLG03
KOB FLG04
```

**Note:** Tracing can be dynamically turned off by issuing a **Modify** command with a value of 0 for the trace level. For example:

```
/F IBMTOM, TRACE KOBRRWKR 0
```

Multiple components can be specified on the TRACEV1 statement. For example:

```
/F IBMTOM, TRACE KOBRRWKR 1, KOB SOCK 2
```

Be sure to comment or remove the TRACEV1 statement in the KOBENV member when debug messages are no longer needed.

## RAS1 Tracing for the OMEGAMON Subsystem

You can start and stop tracing for the OMEGAMON Subsystem.

**Note:** Tracing can cause excessive output to the Tivoli OMEGAMON Manager job log. Consult IBM Software Support for advice before you enable tracing.

Tracing for the OMEGAMON Subsystem is dynamically started and stopped using modify commands. Trace messages are produced in the OMEGAMON Subsystem's SYSPRINT location, the SYSTRACE DD location, or both. For example:

```
/F IBM CN,TRACE KOBHTTPW 1
```

You can initiate tracing for one or more components at startup by adding a TRACEV1 statement in the OMEGAMON Subsystem's RKANPARU(KOBENV) member and specifying a component (or components) and level of tracing.

For example:

```
TRACEV1=TRACE KOBxxxxx n
```

where:

- The variable *n* is the trace level, and has a value of 0 - 4. A trace level of 0 indicates that no tracing takes place and disables tracing if it was already enabled. A trace level of 1 - 4 enables tracing; 1 generates the least number of trace messages, while 4 generates the most trace messages.
- The value of KOBxxxxxx is as follows:

```
KOBHTTPS KOBHTTPL KOBHTTPW KOBHTTP$ KOBHTTP@ KOBHTTP# KM5JLFRD
```

**Note:** Tracing can be dynamically turned off by issuing a modify command with a value of 0 for the trace level. For example:

```
/F IBMTOM,TRACE KOBHTTPW 0
```

Multiple components can be specified on the TRACEV1 statement. For example:

```
/F IBMTOM,TRACE KOBHTTPW 1, KOBHTTPS 2
```

Be sure to comment or remove the TRACEV1 statement in the KOBENV member when debug messages are no longer needed.

## KOB messages

Messages that begin with the KOB prefix are associated with the OMEGAMON Enhanced 3270 User Interface, which is part of the OMEGAMON Base component. By default, trace and error logs are created in SYSPRINT. (An alternate log location may have been specified, using standard JCL services.) Most of the messages are prefixed by a timestamp and thread ID.

For the complete list of messages, see [KOB messages](#).

## Reference

The keywords that are used in the definitions of panels and profiles. The commands you can use to start and stop the interface address space or refresh the local registry.

## About panels

Workspaces are composed of two types of panels: workspace panels and popup panels.

*Workspace* panels are typically used to present data. A workspace panel can contain up to 15 subpanels. Each subpanel in a workspace can contain data from a different attribute group or even a different application. Subpanels can be linked to other workspace panels using context-sensitive links, so that the data displayed in the target workspace reflects values in the linked-from workspace (see [“Figure: A workspace with several subpanels” on page 1024](#)).



Figure 190: A workspace with several subpanels

Popup panels overlay workspace panels and are typically used to provide navigation, action options, or help for a particular field, or additional information about actions (see “Figure: Workspace with popup panel” on page 1024). Popup panels are also used to confirm an action.

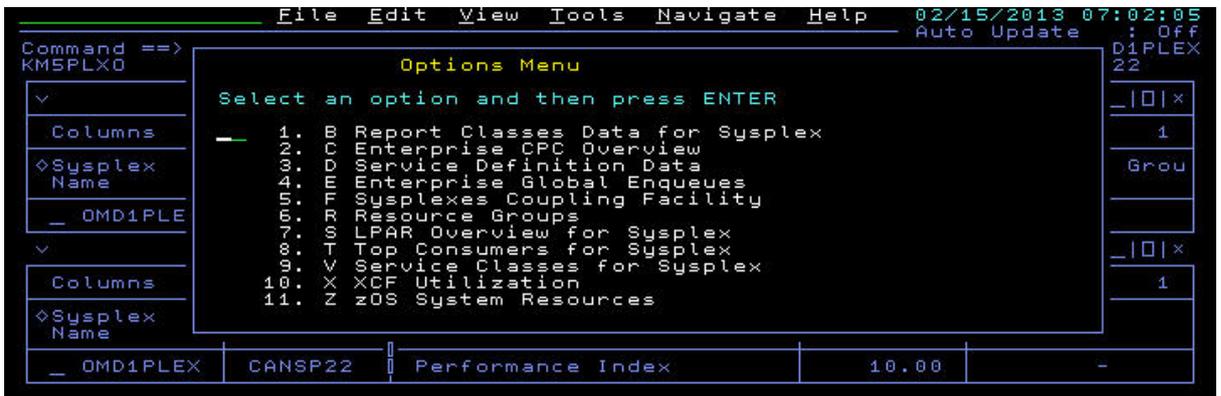


Figure 191: Workspace with popup panel

Workspace and popup panels are created using panel definitions. Panel definitions are members of a data set allocated to RKANWENU (the default for English; the ddname is dependent upon the locale ID). The name of a data set member is the name of the panel it defines.

A panel definition consists of one or more stanzas that specify the panel type or elements and keyword = value pairs that specify the appearance and content of the panel.

## Workspace panel definitions

Workspaces panel definitions consist of an opening and closing stanza tag and a set of keywords that specify the global properties and content of the workspace. A workspace panel definition can contain up to 15 subpanel definitions. Subpanel definitions specify navigation and display options for the subpanel and the data query. Subpanels can be linked to other workspace panels using links, so that the data displayed in the target workspace reflects values in the linked-from workspace.

A workspace panel definition begins with a <WORKSPACE> tag as the first noncomment line and ends with a <WORKSPACEEND> tag. In addition to a set of supported keywords that specify global settings for the workspace, a workspace definition can contain the following stanzas:

## ALIASCOMMANDS

<ALIASCOMMANDS><ALIASEND>

In an ALIASCOMMANDS stanza, the aliases for workspace panel IDs to be used in fastpath navigation are defined with SET statements. By default, alias commands apply only to the current panel. For the aliases to persist, the scope must be set to GLOBAL. If the scope is global, after an alias has been set, it is available to every subsequent panel until the alias is either updated or deleted. The SET statement for the alias can also specify whether the resulting workspace is always presented in realtime mode, even if the user is in history mode when issuing the alias command.

The use of <ALIASEND> it prevents subsequent SET statements from generating alias variables instead of normal variables.

For example:

```
<ALIASCOMMANDS>
SET HEALTH=KPPASTO SCOPE=LOCAL REALTIME
<ALIASEND>
```

## ONENTRY

<ONENTRY><ONENTRYEND>

An ONENTRY stanza contains SET statements that are executed only once, when the workspace is loaded during "forward" navigation. This prevents the statements from being redriven, for example, when a filter is invoked.

## SUBPANEL

<SUBPANEL>

Subpanel definitions are introduced by a <SUBPANEL> statement. Subpanels do not require a corresponding <SUBPANELEND> statement. The occurrence of a new <SUBPANEL> tag or a <WORKSPACEEND> tag functions as an indication of the end of the preceding subpanel.

In each subpanel, you can control the type of subpanel (summary, detail, text, action), the number of lines and rows that are displayed, the data that is queried, and the columns that are displayed. You can specify what controls are available (such as scrolling and minimizing and maximizing subpanels) and define navigation options for drilldown to other workspace or popup panels. The order of some keywords is restricted.

Subpanels may contain several types of stanzas:

### ISPF

<ISPFANEL><ISPFANELEND>

ISPF stanzas support a subset of the standard ISPF statements. See "[Supported ISPF statements](#)" on [page 1058](#).

### PROLOG and EPILOG

<PROLOG><PROLOGEND> and <EPILOG><EPILOGEND>

PROLOG and EPILOG stanzas optionally bracket a QUERY keyword and allow for the definition of local variables and for pre- and post-processing of the queried data using REXX EXECs. PROLOG and EPILOG stanzas can contain the following elements:

- SET commands
- REXX EXEC commands
- ZOOMCOLS=&varname statements

### ONACTION

<ONACTION><ONACTIONEND>

This stanza is executed once when the workspace is first displayed during forward navigation.

ONACTION stanzas can contain the following elements:

- SET commands.  
SET commands coded in an ONACTION stanza are executed directly after key column assignment when an action is driven from the subpanel (see "[KEYCOLS](#)" on [page 1040](#)).

Used with the system variable ZFILTERnn, SET commands in the ONACTION stanza can be used to created filters for columns that have been designated as eligible using the FILTERCOLS keyword.

For example:

```

<ONACTION>
SET ZFILTER01=CICSNAME=C*
SET ZFILTER02=SOS=1
SET ZFILTER03=TASKS>100
<ONACTIONEND>

```

- REXX exec calls. For example:

```

<ONACTION>
CALL MYREXX
<ONACTIONEND>

```

## Example

Here is an example of a simple workspace panel definition:

```

<WORKSPACE>
HEADER='Address Spaces for Service Class'
NAV1TEXT='Plex ID'
NAV2TEXT='SMF ID'
SET ZOMEGNAV2=''
SET ZOMEGLOCK1=NO
SET ZOMEGLOCK2=YES
IMBED=KM5NAV1

/*****/
/*                                     */
/* SUBPANEL 1 - Address Spaces for Service Class */
/*                                     */
/*****/

<SUBPANEL>
HEADER='Service Class &CLSNAME'
TYPE=SUMMARY
/*****/
/*           Data Query */
/*****/
QUERYTYPE=ROUTER
QUERYMODE=LIVE
QUERYREGTYPE=DRA
QUERY='SELECT MADDSPC.ORIGINNODE,MADDSPC.ASNAME,
MADDSPC.VSYSTEMNAM,MADDSPC.ASID,MADDSPC.ASRCNAME,
MADDSPC.VELOCITY,MADDSPC.PAGERATE,MADDSPC.ASCSTOR,
MADDSPC.ASESTOR,MADDSPC.IORATE,MADDSPC.CPUPCNT,
MADDSPC.IFAPCNT,MADDSPC.IFCPCNT,MADDSPC.SUPPCNT,
MADDSPC.SUCPCNT,MADDSPC.CLSNAME,
FROM KM5.MADDSPC,
WHERE ORIGINNODE='&PLEXORIG',
AND MADDSPC.CLSNAME='&CLSNAME',
ORDER BY VELOCITY DESC;'
/*****/
/*           Data Status */
/*****/
/*****/
/*           Session Data Row Key Fields */
/*****/
/*****/
/*           Default list of fields to display */
/*****/
STATICCOLS=2
SORTCOLS='ASNAME,ASID,PAGERATE,ASCSTOR,ASESTOR,IORATE,CPUPCNT,
IFAPCNT,IFCPCNT,SUPPCNT,SUCPCNT,VELOCITY'

DISPLAYCOLS='ASNAME,ASID(HEXDISP),VSYSTEMNAM(W=4),
ASRCNAME,CPUPCNT,VELOCITY,ASCSTOR,ASESTOR,IORATE,
PAGERATE,IFAPCNT,IFCPCNT,SUPPCNT,SUCPCNT'
/*****/
/*           Navigation Options */
/*****/
/* ACTION=ASNAME(?,"Help Assistance",KOHELP1) */
/*****/
/* SUBPANEL 1 END */
/*****/
<WORKSPACEEND>

```

## Popup panel definitions

Popup panels overlies a portion of a workspace panel. Popup panels are typically used to display navigation or action options, to supply information for a particular field, or to provide additional information about actions. Popup panels are also used to confirm actions. Popup panels are linked to a subpanel through an ACTION setting in a subpanel definition.

Popup panel definitions begin with <POPUP> and end with <POPUPEND>. Popup panels may contain a header, free-form text, and a subpanel.

Popup panels suspend Auto update in the parent workspace: until the popup panel is dismissed, the **Auto update** field in the workspace displays SUS instead of Off or Interval.)

Popup panels can contain variables. The variables must be set in the parent workspace or in a previously accessed workspace.

As in workspace definitions, stanzas that define subpanels are introduced by a <SUBPANEL> statement. A corresponding <SUBPANELEND> statement is not required. Unlike workspace panels, which may contain up to 15 subpanels, popup panels can contain only one subpanel. Moreover, subpanels in popup panels cannot contain the QUERY keyword or PROLOG and EPILOG stanzas. Subpanels may contain ONACTION and ISPF stanzas. As in subpanels, ONACTION stanzas may contain SET commands and REXX exec calls. See [“Supported ISPF statements” on page 1058](#) for more information allowable ISPF statements.

### Example 1

The following example shows the use of a subpanel with actions defined, an ISPF )LIST statement with the POPUPACTIONS argument, with the width of the popup panel specified. The POPUPACTIONS argument displays the actions defined in the popup panel in a numbered list, in a popup panel with a width of 50 characters.

Figure 192: Example of a popup panel definition

```
/*
/*
/*          OMEGAMON BASE EXIT CONFIRMATION          */
/*
/*
/*
/*
<POPUP>
<SUBPANEL>
ACTION=(X,"Exit and terminate the session (X)",=LOGOFF)
ACTION=(R,"Resume (R)",=END)
<ISPFANEL>
)LIST POPUPACTIONS
)BODY WIDTH(50)
           Exit Menu

Type a selection number, enter X to exit,
enter R to resume, or press PF3 to return.

)INIT
)PROC
)END
<ISPFANELEND>
<POPUPEND>
```

### Example 2

This is a sample popup panel action, which takes the actions defined in the subpanel from which the popup panel is invoked and inserts them after the text in the )BODY statement. A color variable is used to apply color to text .:

Figure 193: Example of action popup that inserts actions from the subpanel definition

```
/*
/*
/*          OMEGAMON ACTION CHARACTER LIST          */
/*
/*
/*
/*
<POPUP>
<SUBPANEL>
<ISPFANEL>
)ATTR
@ TYPE(TEXT) SKIP(ON) COLOR(&ZCLRTEXT)
)LIST PANELACTIONS
```

```

)BODY WIDTH(50)
    Action Command Menu
Select an action and then press Enter.

)INIT
)PROC
)END
<ISPFPALEND>
<POPUPEND>
***** Bottom of Data *****

```

## Guidelines for constructing panel definitions

Panel definitions are constructed according to specific guidelines. You should be aware of these guidelines if you are constructing a panel definition from scratch, instead of copying and modifying an existing definitions

- The first non-comment line of a workspace panel definition must contain a <WORKSPACE> tag. The first noncomment line of a popup panel must contain a <POPUP> tag.
- The end of a workspace panel definition must be marked by a corresponding <WORKSPACEEND> tag. The end of a popup panel definition must be marked by a corresponding <POPUPEND> tag. Anything after this tag is ignored.

**Note:** If you do not specify an end tag, the end of the file is the interpreted as the end of panel definition. Since the rest of the file is ignored, using an explicit end tag allows you to ignore part of the file, for example if you are testing a panel definition.

- Any text values that contain a space must be enclosed in single or double quotation marks. If text contains a single quotation mark, it must be enclosed in double quotation marks. Any comma-delimited list (for example, DISPLAYCOLS= ' CICSplex , PLEXRATE , PLEXCPUP ') must also be enclosed in quotation marks.
- Some keywords must be specified in a particular order (see [“Panel definition keywords” on page 1028](#)). Comments (/\*) are allowed anywhere in the definition.
- Comment lines and blank lines are ignored.

## Panel definition keywords

Keyword/value pairs are used to define the properties of panels. There are keywords that affect the workspace as a whole, and subpanel keywords that apply only to specific subpanels.

### Workspace keywords

The keywords in this section define global properties for workspace panels.

#### CURSOR

Defines the default cursor position on an initial workspace.

CURSOR=[HOME | COMMANDLINE | SUBPANEL | ASIS]

#### Possible values

##### HOME

Row 00, Column 1

##### COMMANDLINE

Cursor appears after **Command ==>**.

##### SUBPANEL

Cursor appears in first selectable field of the first subpanel.

##### ASIS

The cursor remains on the workspace wherever the user placed it.

**Default value**

HOME

**Example**

CURSOR=COMMANDLINE  
 CURSORREFRESH

Defines where the cursor position is after a workspace has been refreshed.

**Possible values****HOME**

Row 00, Column 1

**COMMANDLINE**Cursor appears after **Command ==>****SUBPANEL**

Cursor appears in first selectable field of the first subpanel.

**ASIS**

The cursor remains on the workspace wherever the user placed it.

**Default value**

ASIS

**Example**

CURSORREFRESH=SUBPANEL  
 HEADER (workspace)

The text to be displayed at the top of the workspace.

**Possible values**

Any text up to 46 characters. Any characters that exceed the maximum length are truncated. The text is case-sensitive.

**Default value**

No header is displayed.

**Example**

The following example illustrates the use of the HEADER keyword to define text “Enterprise Overview” as the workspace header.

```
HEADER='Enterprise Overview'
```

shows

```
Command ==> _____
PANELID           Enterprise Overview
```

**IMBED**

Specifies a subpanel definition to be imbedded. Can be used to reuse a subpanel in several workspaces, or to imbed a subpanel definition provided by another product. If an imbed subpanel for another product allows for take actions (like cancelling a CICS task), then security for those actions is governed by the resource rules for the product providing the imbed.

IMBED =[subpanelid|&panelid]

This keyword is placed at the location where the imbedded subpanel will appear, if available. This keyword requires a standalone subpanel definition in a separate PDS member. The member must consist of only the <SUBPANEL> stanza containing the subpanel definition. You can imbed multiple subpanel members.

**Possible values**

- *subpanelid*: the name of the PDS member that contains the subpanel definition
- *&panelid*: a variable set to the member name

**Default value**

None

## Example

```
IMBED=&imbwait
```

### MODE (workspace)

Specifies that the workspace should not be displayed. This keyword is used to "hide" a workspace that is used to collect data for a workspace that is displayed subsequently or to silently perform an action.

Use of MODE=SILENT disables any other display-oriented keywords in the workspace definition, such as DISPLAYCOLS, SCROLLBAR, and MINMAX. A workspace that is specified as SILENT must create a new variable called ZDESTID which contains the panel ID of the destination workspace. This can be accomplished either in a REXX EXEC, or in a workspace definition by specifying SET ZDESTID=*panelid*. Although MODE is a <WORKSPACE> setting, SET ZDESTID is a <SUBPANEL> setting.

#### Possible values

SILENT

#### Default value

None

## Example

```
<WORKSPACE>  
MODE=SILENT  
<SUBPANEL>  
SET ZDESTID=KCPPRGD  
<WORKSPACEEND>
```

### NAV1TEXT

Specifies the text used to label the field that filters for data from a specific plex.

#### Valid values

Any text up to 8 characters. Any additional characters are truncated.

#### Default value

Plex ID

See also: "[NAV2TEXT](#)" on page 1030

## Example

```
NAV1TEXT='CICSPLEX'
```

### NAV2TEXT

Specifies the text used to label the field that allows a subsystem filter (such as a region or LPAR) to be placed on the data.

#### Possible values

Any text up to 8 characters. Additional characters are truncated.

#### Default value

Sys ID

See also: "[NAV1TEXT](#)" on page 1030.

## Example

```
NAV2TEXT='Region'
```

### QUERYWHEN (workspace)

Forces data collection for all subpanels within the workspace when the workspace is returned to using backwards navigation.

QUERYWHEN= RETURN

By default, data collection is driven only when the Enter key is pressed and no screen operations are requested. Screen operations include pulldown or popup panels, collapsing and expanding, minimizing and maximizing, scrolling, or backwards navigation.

### WHENNOHEADER

Replaces the entire subpanel header with the specified text when rows are empty and the subpanel is collapsed.

WHENNOHEADER="text"

If there is no data returned in a subpanel, the subpanel is automatically collapsed and the header displays the text "No data." You can override the header with alternative text, up to a maximum of 64 characters.

### Example

```
WHENNOHEADER="No data is available because the task has ended"
```

### WHENNOTEXT

Replaces the text "No data" when there is no data in the rows and a subpanel is collapsed.

WHENNOTEXT="text"

If there is no data returned in a subpanel, the subpanel is automatically collapsed and the header displays the text "No data." You can replace "No data" with alternative text, up to a maximum of 15 characters.

### Example

```
WHENNOTEXT="task has ended"
```

## Subpanel keywords

The keywords in this section define the properties of a subpanel. The keywords must be preceded by the <SUBPANEL> tag. A <SUBPANELEND> tag is optional. The occurrence of another <SUBPANEL> or a <WORKSPACEEND> tag is taken as the close of the subpanel definition.

### ACTION

In a summary subpanel, defines a list of navigation and action options from which a user can select. You can define up to 16 actions for a selectable field for a subpanel. A popup panel with a list of all possible options is dynamically defined. A default action can be defined. These options are displayed in a popup when a user enters a slash ("/") on the selectable row associated with the actions.

ACTION=columnname(action\_character,"action\_text\_description",destination\_panelid[,DEFAULT][,CONFIRM][,REALTIME])

where:

#### **columnname**

The name of the column with which the action is associated.

#### **action\_character**

The character associated with the action.

#### **action\_text\_description**

A description of the action to be taken, enclosed in single or double quotation marks.

#### **destination\_panelid**

The panel ID of the workspace to which users are taken. Specify NULLDEST for no navigation.

#### **DEFAULT**

Defines the action as the implicit navigation behavior. If only one action is specified, it is taken as the default. If multiple actions are defined for a subpanel, one must be defined as the default.

#### **CONFIRM**

Invokes a confirmation popup panel (KOBCONFM) before proceeding to the specified panel ID.

#### **REALTIME**

Renders the destination workspace in realtime mode, even if the user is in history mode when selecting this action.

#### **ENTER**

ENTER can be used instead of an action character. Using ENTER changes the behavior of a popup panel so that the Enter key can implement navigation instead of data collection and redisplay. The destination panel ID can be any workspace or popup panel or the special keyword END. END indicates navigate backwards (save and PF3). If a REXX EXEC sets the ZDESTID in an ONACTION stanza, the ENTER key options are ignored, and the popup panel is redisplayed with any updates that the REXX EXEC may have made.

### Example 1

This example illustrates an action selection menu:

```
ACTION=HUBNAME(?,"Help Assistance",KOCHHELP1,DEFAULT)
ACTION=HUBNAME(S,"Select a hub",KOBPANE1)
ACTION=HUBNAME(K,"Kill a hub",KOBPANE2,CONFIRM)
```

## Example 2

These examples illustrate the use of the ENTER and END keywords:

```
ACTION=(ENTER, ,MYNEXTWS)
```

or

```
ACTION=(ENTER, ,END)
```

These two examples are mutually exclusive.

### AUTOSELECT

For subpanels with MODE=SILENT that contain a query, automatically selects the first data record returned from the query. If you specify AUTOSELECT, you do not need to specify MODE=SILENT.

### BOXTOP

Determines whether a top border is displayed for a subpanel.

#### Possible values

NO, YES

#### Default value

YES

#### Example

```
BOXTOP=NO
```

### BOXBOTTOM

Determines whether a bottom border is displayed for a subpanel.

#### Possible values

NO, YES

#### Default value

YES

#### Example

```
BOXBOTTOM=NO
```

### COLHEADERS

Determines whether column headings are displayed. This setting applies only to SUMMARY displays.

#### Possible values

N, Y, n, where N means that no column headings are displayed, Y means that column headings are displayed, and n is 1, 2, or 3 indicating how many lines are allowed for the column header.

#### Default value

Y, 2

#### Example

```
COLHEADERS=Y, 3
```

### COLUMNS

Determines how many columns are displayed. A maximum of 100 columns can be displayed on a subpanel.

#### Possible values

##### DYNAMIC

The width of an individual column, and therefore the number of columns displayed, is determined by the width of the column header or the data, whichever is larger. If the column is defined in DISPLAYCOLS with the BAR option, the width may be also be controlled.

##### MAX(IMUM)

The maximum number of columns available for your screen size:

7 for a screen size of 80

10 for a screen size of 132

14 for a screen size of 160  
Optionally, you can specify a number of columns fewer than the maximum, by specifying MAX-*n*.

## ***N***

An integer in the range 1 through *x*, where *x* is the maximum number of columns for the screen size.

### **Default value**

DYNAMIC

### **Example**

COLUMNS=6  
COLUMNS132

Specifies how many columns should appear on screen if the screen is 27x132. Use this keyword to adjust for screen size if you have specified a specific number of columns using the COLUMNS keyword.

COLUMNS132=*nn*

### **Maximum value**

10

### **Example**

To limit the number of columns displayed in a 27x132 screen to 5:

```
COLUMNS132=5
```

COLUMNS160

Specifies how many columns should appear on-screen if the screen is 62x160. Use this keyword if you have indicated a specific number of columns using the COLUMN keyword.

COLUMNS160=*nn*

### **Maximum value**

14

### **Example**

To specify 10 columns:

```
COLUMNS160=10
```

DISPLAYCOLS

Lists the columns that are returned from the QUERY command that are to be displayed on the subpanel. Columns containing integers or percentages can be displayed in either numeric or analog (bar graph) form.

This setting must be specified *after* the QUERY statement for the subpanel.

### **Possible values**

- ALL displays all columns specified in the query
- A comma-separated list of column names specified in the query, enclosed in single quotes.

```
column_name
```

If the column width is dynamic (COLUMN=DYNAMIC) and the data is an integer or a timestamp, you can optionally specify a display format:

```
column_name(options),column_name(options),column_name(options)
```

The display options available depend upon the data type of the column:

- The following options can be used for columns of any data type:

#### **Width=*nnnn* or Width=*nnn*%**

Specifies the width of the column of data in number of characters or as a percentage of the number of characters that can appear on the screen. For example, W=16 or W=25%.

#### **CAPTION=&*varname* or '*textstring*'**

Specifies the column caption that overrides the column caption for the attribute being graphed. Use the SET command to specify the value for the variable name.

#### **INDENT**

Indents a caption in a detail subpanel. For example:

```
DISPLAYCOLS=' SYSTEMID, CICSNAME(ASCII), WSERVCLAS,
WPERFINDX(CAPTION="Region's_Worst_Perf._Index"),
CPUUTIL(INDENT), TODUPDT, TRANRATE, PCNTMXT,
ENQWAIT(INDENT), REMQUEUE, SOS(INDENT),
STGVIOL(CAPTION="Stg._Violations_last_hour"),
AIDS, ICES(INDENT),
CSTRINGW, CBUFFW, WSFAULT, WSTIMOUT,
CICSTODB(TIME), VERSION(INDENT)'
```

results in the following subpanel:

CICS Region Overview		CICS Region Name	
System ID	SYS	CICS Region Name	
Worst Region Service Class	n/a	Region's Worst Perf. Index	0.00%
CPU Utilization	0.0%	CICS TOD Updated	Yes
Transaction Rate	0/m	Maximum Tasks Percent	7%
Enqueue Waits	0	Queued Remote Requests	0
SOS	No	Stg. Violations last hour	0
AIDS	No	ICES	4
Current VSAM String Waits	0	Current VSAM Buffer Waits	0
Any Current WS Faults	No	Any Current WS Timeouts	No
CICS TOD Clock	13:11:11	CICS Version	6.7.0

- If the column contains Date/Time (T,16) data, you can use the following format options for the display:

**DATETIME**

Displays YY/MM/DD HH:MM:SS

**DATE**

Displays as YY/MM/DD

**TIME**

Displays as HH:MM:SS

**None**

Data is shown in any of the following formats, based on the value:

- 12m 31d
- 31d 23h
- 23h 59m
- 59m 59s
- 59.1234s
- 1.12345s

For example:

```
DISPLAYCOLS=' CICSPLEX, PLEXRATE, EIBTIME(DATETIME), PLEXMAXT'
```

- If the column is an IPV6 address, then the options are:

**None**

Displays the IPV6 according to normal rules

**IPV6**

Displays an IP address with the ::ffff: stripped off

Example: DISPLAYCOLS=HUBIPADDRESS(IPV6)

- If the column contains integer data, you can use the following options:

**BAR**

Displays an integer as an analog horizontal bar. The bar is green if the value is 33% or less of the column width; yellow up between 33% and 66% of the column width; and red if the value is over 66% of the column width.

Control the bar display with the following options:

**THRESH=NO**

Suppresses color indicators for thresholds.

**UNIT=nnn**

Specifies how many integers a single character represents. The default is 1. Decimal places are not supported.

For example:

```
SET KOB_HEADER="Graphical Display"  
DISPLAYCOLS=' CICSplex, PLEXRATE, PLEXCPUP, PLEXCPUP (W=22%, BAR, UNIT=20,  
CAPTION=&KOB_HEADER), PLESOS, PLEXMAXT, PLEXENQW, PLEXHSCI'
```

## HEXDISP

Converts values to hexadecimal for display. HEXDISP supports an offset. For example, if you have an integer field column containing the decimal value 254:

```
(HEXDISP)          displays 000000FE  
(HEXDISP+1)        displays 0000FE  
(HEXDISP+2)        displays 00FE  
(HEXDISP+3)        displays FE
```

## HEXVAR

Converts values being passed in variables set by KEYCOLS to hexadecimal. For example,

```
column_name(HEXVAR)
```

## BKMG (Bytes to Kilo to Mega to Giga).

Converts values expressed in bytes to kilobytes, megabytes, or gigabytes, as appropriate. For example, *column\_name*(BKMG).

## KMG T

Converts values expressed in kilobytes to megabytes, gigabytes, or terabytes, as appropriate. For example, *column\_name*(KMG T).

## NOUNIT

No units are displayed. For example, *column\_name*(NOUNIT).

## PERCENT

Appends a percent symbol (%) after the value on the screen.

- If the column contains strings or enumerations:

### ALIGNRIGHT

Align text to the right hand side of the column.

- If the column contains just text strings:

### ASCII

Forces an ASCII translation of a field prior to display.

## SCROLL

Enables cursor-sensitive lateral scrolling for up to 10 columns on a subpanel. Supported only for strings, where WIDTH= (or W=) is specified. Places left and right arrows in the column heading. Pressing PF10 or PF11 in the data area of a lateral data scroll column also performs lateral data scrolling for just that column. For example, the following subpanel definition:

```
DISPLAYCOLS=' HUBNAME (W=20, SCROLL.)  
DRAIPAD (IPV6, W=16, SCROLL),  
HUBIPAD (IPV6, W=16, SCROLL),  
HUBPORT (ALIGNRIGHT)
```

produces the following subpanel:

Hub-TEMS Name	DRA IP Address	Hub-TEMS IP Address	Hub-TEMS Port Number
omeghahub14	9.42.46.22,19939	9.37.37.197	25104
omeghahub14	9.42.46.22,20444	9.37.37.197	25104
omeghahub14	9.42.46.22,19950	9.37.37.197	25104
omeghahub14	9.42.46.114,3185	9.37.37.197	25104
CVTZSVH0-CMS	9.42.46.114,2974	9.42.46.113	36999

- For columns that consist of multiple sub-columns:

**VALUE='X'**

Display the specified character instead of the actual data value. For example X may be a blank, underscore, and so on.

**SUBWIDTH=n**

For an RLE-Composite column, this specifies the display width of a single sub-column.

**SUBGROUP=n**

For an RLE-Composite column, this specifies the number of sub-columns to concatenate together.

**SUBGAP=n**

For an RLE-Composite column, this specifies the number of blanks between sub-groups.

**Default value**

ALL

**DISPLAYOPTION**

Removes all units from every column in DISPLAYCOLS.

**Note:** DISPLAYCOLS *column*(KMG T) overrides a DISPLAYOPTION=NOUNIT statement.

**Default value**

NOUNIT

**Possible values**

NOUNIT

**Example**

DISPLAYOPTION=NOUNIT

**EXPANDCOLAPS**

Determines whether or not the subpanel can be collapsed and expanded. If a subpanel is collapsed, only the subpanel heading is displayed.

A value of YES causes a down arrow  to appear in the left corner of the subpanel header. Placing a cursor on the down arrow and pressing **Enter** collapses the panel so only the subpanel heading line is visible, and turns the down arrow into a right arrow . Placing the cursor on the right arrow expands the subpanel again.

**Possible values**

YES, NO

**Default values**

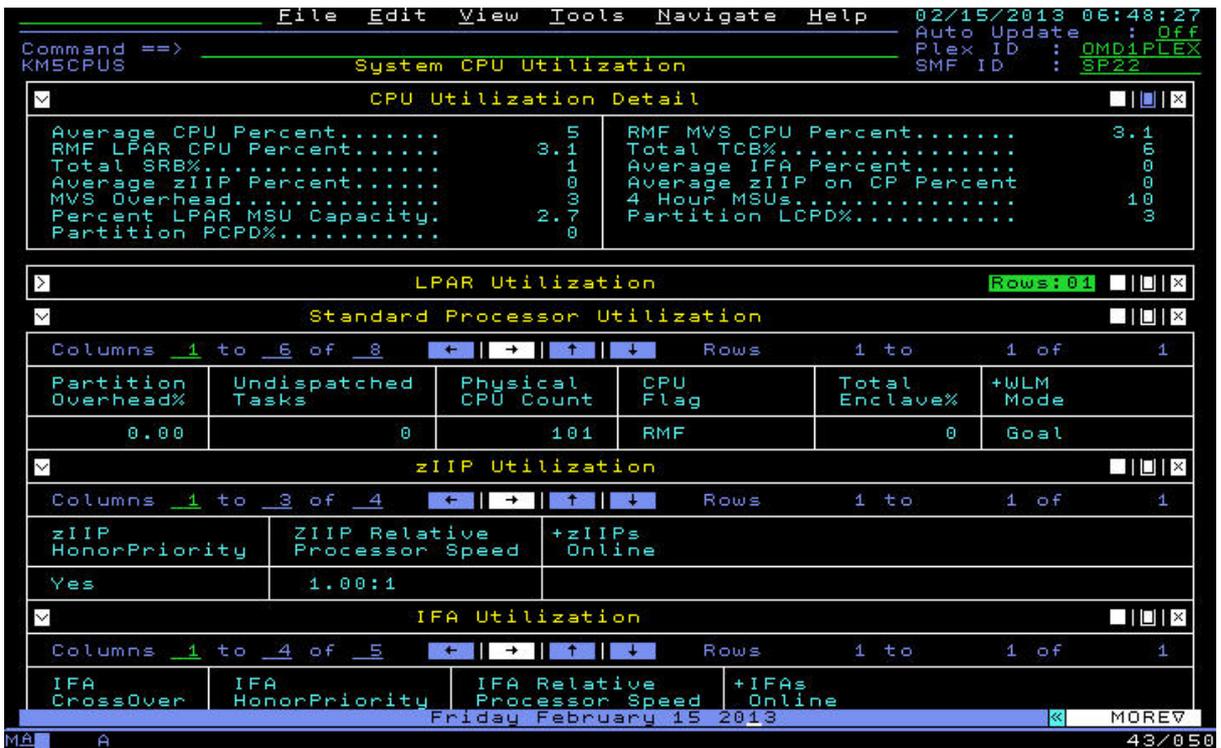
YES

If Yes is specified, you must specify a subpanel HEADER, so that the expand and collapse icons are available.

**Example**

EXPANDCOLAPS=YES

enables a subpanel to be collapsed so only the header is displayed, as in the following example where the LPAR Utilization subpanel is collapsed:



**FILECOMMENTS**

Specifies whether to remove comment lines from the auxiliary file.

FILECOMMENTS=KEEP | REMOVE

**Possible values**

**KEEP**

Do not remove comment lines from the auxiliary file.

**REMOVE**

Remove comment lines from the auxiliary file.

**Default value**

REMOVE

**Example**

```
FILECOMMENTS=REMOVE
```

**FILEDD**

This is the Job Control Language (JCL) Data Definition (DD) name of the PDS from which the 'FILENAME' should be read. The value must match one of the DD statements in your enhanced 3270UI address space's start up JCL.

FILEDD=DDNAME | &NAME

**Possible values**

**DDNAME**

Load an auxiliary file from this PDS concatenation.

**&NAME**

File DDname can be a variable.

**Example**

```
FILEDD=RKANWENU
```

**FILENAME**

This is the Partitioned Data Set (PDS) member name containing information needed within the subpanel. That member can contain things such as a JSON definition of a Status Tree or Help text.

FILENAME=JSONFILE | &NAME

## Possible values

### JSONFILE

Load an auxiliary file to be used by the REXX EXECs associated with this tree.

### &NAME

Filename can be a variable.

## Example

```
FILENAME=KOBSTIT01
```

## FILTERCOLS

Specifies columns to which filtering has been or can be applied.

This keyword must be specified *after* the QUERY statement for the subpanel. Filters are set in the ONENTRY stanza of the workspace panel definition, using SET ZFILTER $nn$  commands.  
FILTERCOLS='columnname,columnname'

### Possible values

A comma-delimited list of column names, with a maximum of 10 columns.

### Default value

None

## Example

```
FILTERCOLS= ' CICSNAME , SOS , TRANRATE , AIDS , WORKSET , CPUUTIL '
```

## FILTERNULLVAL

Specifies whether or not predicates in a query should be removed if their values are unresolved variables.

FILTERNULLVAL=KEEP | REMOVE

### Possible values

#### KEEP

Keeps all predicates in a query even if the values of the predicates are unresolved variables.

#### REMOVE

Removes all predicates in a query if the values of the predicates are unresolved variables.

### Default value

KEEP

## Example

```
FILTERNULLVAL=REMOVE
```

## FILTERSTRIP

Specifies whether or not filtering removes all predicates from the existing query.

FILTERSTRIP=YES | NO

### Possible values

#### YES

Filtering removes all predicates except for SYSTEM.PARMA and ORIGINNODE from the existing query.

#### NO

Filtering retains all existing predicates and dynamically appends the filter predicates.

### Default value

NO

## Example

```
FILTERSTRIP=YES
```

## FILTERVIEW

In subpanels that are reusing data from another subpanel, indicates which ZVIEW $nn$  filter definition, or "view", to use.

FILTERVIEW= $n$

**Parameters**

**Possible values**

1 to maximum number of possible reuses

**Default value**

None

See also [“FILTERVIEWS” on page 1039](#).

**Example**

The following subpanel definition describes a subpanel that has 2 filtered views of a single query. The subpanel definition uses the FILTERVIEW keyword to indicate what view the subpanel is associated with.

```
<SUBPANEL>          Subpanel containing the live query
NAME=SUBPANEL1
QUERY='SELECT A,B,C FROM APP.TABLENAME'
/*****/
FILTERVIEWS=2      Number of filtered views of this query in this workspace
/*****/

<SUBPANEL>          Next subpanel
QUERY=REUSE(SUBPANEL1)      This reaccesses data collected by SUBPANEL1
/*****/
FILTERWHERE=LOCAL
FILTERVIEW=1      ZVIEW $nn$  system variable containing filter predicates
<ONENTRY>
SET ZVIEW01=AIDS=1,SOS<>NO          Can be set/alterd programmatically

<ONENTRYEND>
/*****/

<SUBPANEL>          Next subpanel
QUERY=REUSE(SUBPANEL1)      This reaccesses data collected by SUBPANEL1
/*****/
FILTERWHERE=LOCAL
FILTERVIEW=2      ZVIEW $nn$  system variable containing filter predicates
<ONENTRY>
SET ZVIEW02=CICSNAME=>CICSABCD,MAXOSCOR<=999      Can be set/alterd programmatically

/*****/
```

**FILTERVIEWS**

Indicates the number of filtered re-uses of the data in this subpanel by other subpanels in this workspace.

FILTERVIEWS= $n$

**Possible values**

1 to maximum number of subpanels

**Default value**

None

See also [“FILTERVIEW” on page 1038](#).

**Example**

See example for [“FILTERVIEW” on page 1038](#).

**FILTERWHERE**

Specifies where filtering is applied.

FILTERWHERE=AGENT | LOCAL

**Parameters**

**Possible values**

**AGENT**

Filtering dynamically modifies the SQL to include filter predicates and drives collection.

**LOCAL**

Filtering applies filter predicates to an existing row-set.

**Default value**

AGENT

### Example

```
FILTERWHERE=LOCAL
```

#### FOOTER

Specifies that a footer is displayed at the bottom of a subpanel.

#### Possible values

A text string of up to 68 characters, enclosed in quotation marks. You can use variables in the string. The value is case-sensitive.

#### Default value

None

### Example

```
FOOTER='welcome to &ZSYSID'
```

HEADER (subpanel)

The text to be displayed at the top of the subpanel.

#### Possible values

Any text up to 63 characters. Any characters that exceed the maximum length are truncated. The text is case-sensitive.

#### Default value

No header is displayed.

### Example

```
HEADER='Details for Address Space'
```

#### JOINPREV

Determines whether to adjoin a subpanel to the previous subpanel.

#### Possible values

YES, NO

#### Default value

NO

### Example

```
JOINPREV=YES
```

#### KEYCOLS

Creates a variable of the same name for any columns in a query and assigns the value of the variable to this name. Creating a variable allows fields that uniquely identify a row of data to be saved for a subsequent query (drilldown) using that row of data. KEYCOLS is invoked only after a row of data is selected. This setting must be specified after the subpanel's QUERY statement.

#### Possible values

ALL  
displays all the columns specified in the query.

One or more column names specified in the query  
Use a comma-delimited list to specify more than one column name. Enclose the list in quotation marks.

**Note:** Using ALL results in increased overhead.

#### Default value

None

## Example

```
KEYCOLS='HUBNAME, LPAR, TRANSID'
```

allows these variables to be used in a future query such as:

```
SELECT ... WHERE HUBNAME=&HUBNAME AND LPAR=&LPAR AND TRANSID=&TRANSID
```

## LINES

Determines the number of data rows displayed in a subpanel. The value can be expressed as an absolute number or as percentage of the available workspace, or can be set to adjust dynamically to the data and space available.

### Possible values

#### An integer in the range 1 - 56

The number of rows of data requested. Six lines are dedicated to the workspace header, including subpanel header, column headings, and separator lines.

#### A percentage in the range 1% - 100%

#### DYNAMIC

The subpanel uses the available space of the 3270 session.

The first subpanel is allocated as many rows as it has data. Each subsequent panel is allocated as many of the remaining lines as are available.

### Default value

DYNAMIC

## Examples

LINES=33% or LINES=10

## MINMAX

Determines whether or not the subpanel can be minimized, maximized, and closed.

**Note:** Maximize is currently disabled.

### Possible values

YES, NO

### Default value

YES

If Yes is specified, you must specify a subpanel HEADER, so that the minimize and maximize icons are available.

## Example

MINMAX=YES displays the minimize, maximize, and close boxes in the upper right corner of the subpanel.



## MODE (subpanel)

Indicates that a subpanel should not be displayed. This keyword is used to "hide" a subpanel that is used to run a query, establish variables, or perform an action required by a subsequent panel.

MODE=SILENT

## NAME

Assigns a unique name to a subpanel. Naming a panel allows you to reuse its query.

A subpanel name is 3 to 8 characters, beginning with an uppercase alphabetical character.

## Example

The following example shows four subpanel definitions with each panel assigned a distinct name (ALPHA, BETA, GAMMA, and DELTA).

```

<SUBPANEL>          This is subpanel #1 with a query
NAME=ALPHA          This is its name
QUERY="SELECT .....

<SUBPANEL>          This is subpanel #2 with a query
NAME=BETA           This is its name
QUERY="SELECT .....

<SUBPANEL>          This is subpanel #3 with no query
NAME=GAMMA          This is its name
QUERY=REUSE(ALPHA) Re-using first query

<SUBPANEL>          This is sub-panel #4 with no query
NAME=DELTA          This is its name
QUERY=REUSE(BETA)  Re-using second query

```

## PARTIALCOLS

The dynamic columns feature attempts to put as much information on the screen as possible, which can result in the rightmost column being displayed as only a partial column. Use the scroll bar to see the rest of the column. If you would rather not see a partial column, code PARTIALCOLS=NO .

### Possible values

YES, NO

### Default value

YES

### Example

```
PARTIALCOLS=NO
```

## QUERY

The SQL query that will be used to collect data from the application.

### Possible values

- A valid SQL SELECT statement
- REUSE(*subpanel\_name*)  
uses the data retrieved by the query in the specified subpanel.

All columns (attributes) in a query must be from the same table (attribute group), with a maximum of 100 columns specified on the query. Variables can be used anywhere in the QUERY statement, but only columns specified in a preceding panel can be used as variables.

**Note:** Variables can be used anywhere in the QUERY statement. Column names do not need to be preceded by table names.

### Default value

None

### Example 1: Queries with SELECT statement

```
QUERY='SELECT CICSPLEX, PLEXCPU, PLEXSOS, PLEXRATE, PLEXMAXT,
PLEXENQW, PLEXHSCI, FROM OMCICS.PLEX'
```

```
QUERY='SELECT TRANID, TASKNO, RTYPE, RNAME, STATE, CPUTIME, SUSPTIME,
ELAPTIME, USED16, USED16, ATCHTIME, TIMEOFSU, SUSPDUE, FACTYPE,
FACID, ORIGTRID, UMBTRID, QUEUE, FIRSTPGM, CURRPGM, USERID, EXECCMD,
PURGEABL, PURGSTAT, SUSPTYPE, UOWSTATE,
FROM OMCICS.CICSTRD,
WHERE ORIGINNODE = "&SYSTEMID.&CICSNAME"
AND CICSTRD.TRANID = "&TRANID"
AND CICSTRD.TASKNO = "&TASKNO"'
```

### Example 2: Reused query

```

<SUBPANEL>          This is subpanel #1 with a query
NAME=ALPHA          This is its name
QUERY="SELECT .....

<SUBPANEL>          This is subpanel #2 with a query
NAME=BETA           This is its name
QUERY="SELECT .....

<SUBPANEL>          This is subpanel #3 with no query
NAME=GAMMA          This is its name
QUERY=REUSE(ALPHA) Re-using first query

```

**QUERYLOGIC**  
Special logic rules needed to generate the result rows of the associated QUERY statement.

**Example**

The QUERYLOGIC contents are used only for QUERYTYPE=REXX. The QUERYLOGIC='...' statement controls how data columns and rows are combined from the earlier input queries. The QUERYLOGIC references earlier query results by specifying the subpanel 'name' of the earlier queries. This means you should supply the NAME=xxx statement in each subpanel in your workspace and then reference those NAME values in your final SQL query. See the examples below.

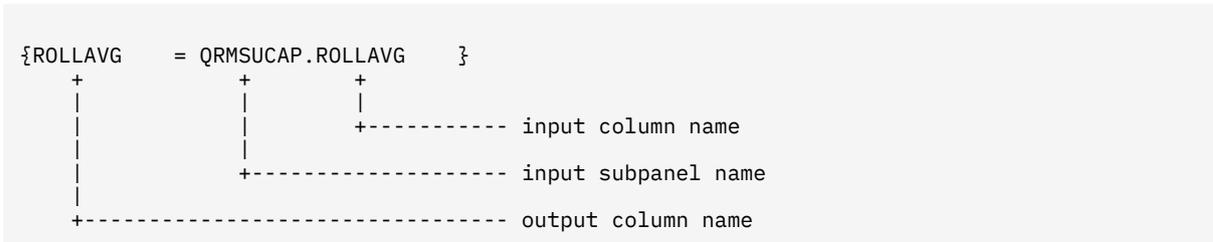
The QUERYLOGIC section is interpreted by a program named KOBQRYEX, which is named in the QUERY='...AT(KOBQRYEX)...' statement for your output table.

The QUERYLOGIC contains sections marked by left and right braces for every column in your output table. The QUERYLOGIC statements must contain the same number of {...} sections as there are columns in the SELECT clause of your QUERY statement.

Within each {...} section, there is an 'assignment' statement that contains an output column name, an equal sign (=), and then the value to be assigned to the column. For example:

```
{ROLLAVG=QRMSUCAP.ROLLAVG}
```

This assignment statement says that the ROLLAVG column in your output table is to get its data from the ROLLAVG column in an earlier <SUBPANEL> query. That earlier query is the one contained in the <SUBPANEL> that contains a NAME=QRMSUCAP statement.



The earlier subpanel would look like this:

```

<SUBPANEL>
NAME=QRMSUCAP
...
QUERY="SELECT ROLLAVG, ...
FROM KM5.KM5MSUCAP WHERE SYSTEM.PARMA('NODELIST', '*MVS_SYSTEM', 11)
AND RECTYPE = 1 ORDER BY PCTMSUCP DESC"
...
<SUBPANELEND>

```

That assignment statement in the QUERYLOGIC is simply copying a column value from one of the input tables into a column of your output table.

**Possible Values**

See examples below and the online Help information within the Enhanced 3270 User Interface.

**Default Value**

None

## Example:

```
QUERYLOGIC="
{ROLLAVG      = QRMSUCAP.ROLLAVG      }
{LPARCAPLIM   = QRMSUCAP.LPARCAPLIM   }
{PCTMSUCP     = QRMSUCAP.PCTMSUCP     }
{SMFID        = QRSYSCFG.SMFID[ORIGINNODE=QRMSUCAP.ORIGINNODE] }
{LPARNAME     = QRSYSCFG.LPARNAME[ORIGINNODE=QRMSUCAP.ORIGINNODE] }
{PLXNAME      = QRSYSCFG.PLXNAME[ORIGINNODE=QRMSUCAP.ORIGINNODE] }
"
```

## QUERYTIMEOUT

Specifies the amount of time, in seconds, that can elapse before a query expires if no data is returned. The default is 10 seconds.

### Possible values

1 - 99

### Default value

10

## Example

```
QUERYTIMEOUT=30
```

## QUERYTYPE

The type of query to be used. This setting is valid only if QUERYMODE=LIVE.

### Possible values

REGISTRY

ROUTER

INTERNAL

PDS

REXX

### Default value

ROUTER

## Example

```
QUERYTYPE=ROUTER
```

## QUERYWHEN (subpanel)

Forces data collection when the default behavior is to not drive data collection, or surpresses collection until user types in information.

QUERYWHEN= [ENTER | RETURN | MIN | COLLAPSE | ZQUERY]

### Possible values

- ENTER  
Drives query when Enter key is pressed
- RETURN  
Drives query when user returns to the workspace.
- MIN  
Drives query when subpanel is minimized.
- COLLAPSE  
Drives query when subpanel is collapsed.
- ZQUERY  
Suppresses a query until the user types something in, even when the Enter key has been pressed. For example, you might want to suppress a Take Action command or Get Response query until the user has actually entered some kind of command. So, the REXX EXEC that builds the data field used in the query will also set the variable ZQUERY=YES. The subpanel in question is be coded with

QUERYWHEN=ZQUERY, so it will only be driven when the variable is set (that is, a positive value like YES). If ZQUERY is null, the query is not driven.

#### Default value

By default, no data collection is driven when subpanels are scrolled, expanded, collapsed, or minimized. No collection is driven during when pulldown or popup panels are being displayed, and no collection is driven during backward navigation.

#### Example

```
QUERYWHEN=COLLAPSE
```

#### SCROLLBAR

Determines whether the subpanel displays the right, left, up, and down arrows for scrolling. This setting applies only to SUMMARY type displays.

#### Possible values

YES, NO

#### Default value

YES

#### Example

SCROLLBAR=YES displays



#### SCROLLCOLS

Suppresses column FROM TO indicators if only one column is displayed and no scrolling is required.

SCROLLCOLS=NO

#### SCROLLROWS

Suppresses row FROM TO indicators if only one row is displayed and no scrolling is required.

SCROLLROWS=NO

#### SELECTROW

This is a formula that controls the selectability of each row in the subpanel (whether an action command is allowed for the row, as indicated by an underscore character). For each row of data in the subpanel, the value of the specified column is compared against a constant value you supply. If the comparison between the column's value and the constant value is true, then the row is selectable. The value may be a string enclosed in single or double quotes or a decimal integer value.

For TYPE=TREE subpanels, the allowed formats are:

- SELECTROW=column\_name>value
- SELECTROW=column\_name<value
- SELECTROW=column\_name>=value
- SELECTROW=column\_name<=value
- SELECTROW=column\_name=value
- SELECTROW=column\_name<>value
- SELECTROW=column\_name\=value

#### SKIP

The number of rows to skip before the first data row.

#### Possible values

0 - 2

#### Default value

0

#### Example

SKIP=1

#### SORTCOLS

Lists the columns that are returned from the QUERY command that are eligible to be sorted. This value must be specified after the subpanel's QUERY statement.

**Note:** The number of columns to be sorted can have performance implications for loading a workspace. See [“Workspace sort columns” on page 961](#) for considerations related to the SORTCOLS keyword.

#### Possible values

- ALL (displays all columns specified in the query)
- A comma-separated list of column names specified in the query, enclosed in single quotes. Up to 30 column names can be specified.
- None

#### Default value

None

#### Example

```
SORTCOLS= 'CICSPLEX, PLEXRATE, PLEXCPUP'
```

#### SPACE

The number of blank lines between rows of data.

#### Possible values

0-2, optionally followed by the ONBREAK control (`ONBREAK=columnname`). The ONBREAK control indicates that a space should be inserted only when the value in a particular column changes in the following row.

#### Default value

0

#### Example

```
SPACE=1, ONBREAK=UOWID
```

#### STARTCOLAPS

Determines whether or not the subpanel is collapsed when the workspace is initialized.

#### Possible values

YES, NO

#### Default value

NO

#### Example

```
STARTCOLAPS=YES
```

#### STARTMIN

Determines whether or not the subpanel is minimized when the workspace is initialized.

#### Possible values

YES, NO

#### Default value

NO

#### Sample

```
STARTMIN=YES
```

#### STATICCOLS

Specifies the number of static columns of a subpanel. These columns stay in place while a user scrolls right or left. This setting applies only to SUMMARY type subpanels and must be specified after the subpanel's QUERY statement. Applies to the column order indicated in the DISPLAYCOLS statement, unless DISPLAYCOLS is ALL, in which case the order of the columns is the same as specified in the query.

### Possible values

A number in the range 0– $n$ , where  $n$  is the maximum number of columns that will fit on the screen, minus 1. If the number of static columns exceeds the screen capacity, scrolling is disabled.

### Default value

0

### Example

```
STATICCOLS=2
```

### STATUSCOLS

Specifies which columns in a summary are assessed for status. This setting must be specified after the subpanel's QUERY statement.

### Possible values

ALL

Names of one or more columns returned by the QUERY command. Use a comma-delimited list for more than one name, enclosed in quotation marks.

**Important:** Using ALL results in increased overhead. Use ALL only for Overview-type subpanels, if at all.

NO

**Tip:** Using NO bypasses assessing status for the subpanel, reducing overhead.

### Default value

None

### Sample

```
STATUSCOLS=' PAGERATE , CPUUTIL '
```

### TEXT

Specify the content of subpanels of TYPE=TEXT.

The text that follows TEXT= can include a small set of HTML and proprietary markup tags (see [“Tags for formatting text” on page 1059](#)). If the text consists of more than one word, it must be enclosed in single quotation marks. Variables can be used in the text.

### Example

The following definition illustrates the use of HTML and proprietary tags in the definition of a subpanel:

```
<SUBPANEL>
TYPE=TEXT
MINMAX=NO
EXPANDCOLAPS=N
BOXBOTTOM=NO
TEXT='<color=yellow
<H1><center>Existing Hub Connection Unavailable</H1></color>
<br>
Your current profile
<color=white>(&ZPROFILE)</color>
specified TEMS
<color=white>&ZHUBNAME</color>
using port number
<color=white>&ZHUBPORT.</color>
The initial attempt to contact it has failed
for one of the following reasons:
<ul>
<li>It is no longer running or online </li>
<li>Some of the above information is no longer valid</li>
</ul>
```

```

<p>
This Connectivity dialog will assist you in locating all available
TEMS data sources within your Sysplex.
Select the
<color=white>NEXT</color>
pushbutton to proceed. If your 3270 emulator is not
enabled for mouse click operations,
place your cursor on the NEXT pushbutton and press ENTER.
<br>'

```

produces the following subpanel:

```

                EXISTING HUB CONNECTION UNAVAILABLE

Your current profile (MCRUM) specified TEMS MSD0HAHB:CMS at IP address
::ffff:9.42.46.125 using port number 11757. The initial attempt to contact
it has failed for one of the following reasons:

● It is no longer running or online
● Some of the above information is no longer valid

This Connectivity dialog will assist you in locating all available TEMS
data sources within your Sysplex. Select the NEXT pushbutton to proceed.
If your 3270 emulator is not enabled for mouse click operations, place
your cursor on the NEXT pushbutton and press ENTER.

```

#### TOFROMHEADER

Determines whether to display a header that indicates how many rows and columns the subpanel is displaying, out of the total number of rows and columns. Applicable only to SUMMARY type displays.

#### Possible values

YES, NO

#### Default value

YES

#### Example

TOFROMHEADER=YES shows



#### TREEBRANCHES

Indicates whether or not to display branches of tree.

#### Possible values

VISIBLE, INVISIBLE

#### Default value

VISIBLE

#### Example

TREEBRANCHES=VISIBLE

#### TREEBUTTONS

Specifies whether or not the Expand/Collapse push-buttons should be displayed.

TREEBUTTONS=YES | NO

#### Possible values

YES

Keeps the Expand/Collapse buttons displayed.

NO

Removes the Expand/Collapse buttons.

#### Default value

YES

#### Example

```
TREEBUTTONS=YES
```

#### TREECOLLAPSE

Determines whether tree is collapsed or open; and if open, to what level.

**Possible values**

ALL, NONE, *n*, where ALL means that the tree is totally collapsed, NONE means that the tree is totally open, and *n* is an integer that specifies the collapsed tree level on entry into the workspace. A value of 0 indicates that the tree is totally open.

**Default value**

NONE or 0

**Example**

TREECOLLAPSE=NONE

TREEHSEP1

Specifies the number of blanks between tree widget and the node icon.

TREEHSEP1=*n*

**Default value**

1

**Example**

```
TREEHSEP1=1
```

TREEHSEP2

Specifies the number of blanks between tree icon and node name.

TREEHSEP2=*n*

**Default value**

2

**Example**

```
TREEHSEP2=2
```

TREEICON

Specifies whether or not to display an icon associated with this tree node.

TREEICON=YES | NO

**Possible values**

**YES**

Display an icon to be associated with this tree node.

**NO**

Do not display an icon to be associated with this tree node.

**Default value**

NO

**Example**

```
TREEICON=NO
```

TREELEVEL

This is the name of one of the columns within the QUERY="..." statement that contains an integer value that defines the 'tree level' for a Status Tree or a Help Tree. The TREELEVEL column you select controls the visual hierarchy of the branches (their indentation level).

TREELEVEL=column\_name

**Example**

TREELEVEL=LEVEL

TREEROOT

Indicates which tree level represents the root level.

**Possible values**

0, 1

**Default value**

0

**Example**

TREEROWTYPE  
TREEROWTYPE=0

This is the name of one of the columns within the QUERY=" . . ." statement that contains an integer value that defines the 'row type' for a Status Tree or a Help Tree. The TREEROWTYPE column you select controls the types of actions that are allowed for particular rows in a Tree.

TREEROWTYPE=column\_name

**Example**

TREESTATE  
TREESTATE=ROWTYPE

This is the name of one of the columns within the QUERY=" . . ." statement whose value is used to color an optional icon that appears near the left edge of the tree.

TREESTATE=column\_name

**Example**

TREEWIDGET  
TREEWIDGET=REALTIME

Specifies whether to color code the tree widgets in reverse video white.

**Possible values**

HIGHLIGHT, NOHIGHLIGHT, where NOHIGHLIGHT specifies to color code the tree widgets in reverse video white.

**Default value**

HIGHLIGHT

**Example**

TYPE  
TYPE=HIGHLIGHT

Determines the formatting of the subpanel.

TYPE=[SUMMARY | DETAIL | TEXT | ACTION | PUSHBUTTON | TABDIALOG | TREE]

**Possible values**

**SUMMARY**

Displays queried data for multiple targets (such as plexes, LPARs, and address spaces) in tabular form, with each column displaying the values for a particular property, or attribute, for each target (["Figure: Example of a SUMMARY subpanel" on page 1051](#)).

**DETAIL**

Displays queried data for a selected target in columns of attribute/value pairs (["Figure: Example of a DETAIL subpanel" on page 1051](#)). In detail subpanels, all data is right-aligned.

**TEXT**

Allows use of freeform text and a subset of HTML formatting tags. Text is entered using the TEXT= keyword. No QUERY or QUERY-related keywords can be used with subpanels of this type.

**ACTION**

For use with workspaces specified MODE=SILENT. Allows actions, like queries, to be executed from the panel, without the users seeing the panel. The panel is invoked as many times as selections are passed to it.

**PUSHBUTTON**

Use this type to code one or more reverse video push-buttons. This type is a special version of <ISPPANEL> that supports the PS (Point and Shoot) field type.

**TABDIALOG**

Use this type value to implement subpanel tabs. This type requires the special keyword TAB. An example is shown in “Figure: Example of a TABDIALOG subpanel definition and the resulting subpanel” on page 1052.

**TREE**

Sub-panel will render display column #1 as a tree structure.

**Default value**

SUMMARY

**Example 1: TYPE=SUMMARY**

Specifying TYPE=SUMMARY results in a subpanel like the one in “Figure: Example of a SUMMARY subpanel” on page 1051:

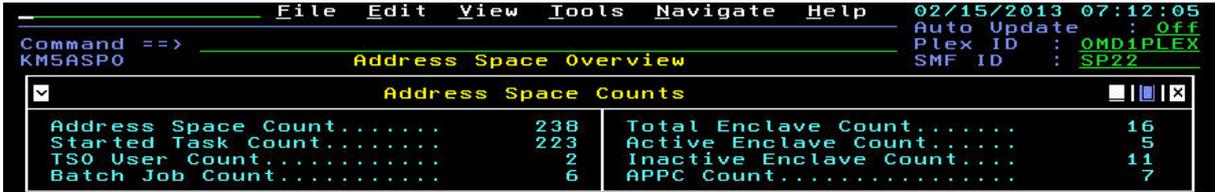


Figure 194: Example of a SUMMARY subpanel

**Example 2: TYPE=DETAIL**

Specifying TYPE=DETAIL results in a subpanel like the one in “Figure: Example of a DETAIL subpanel” on page 1051.

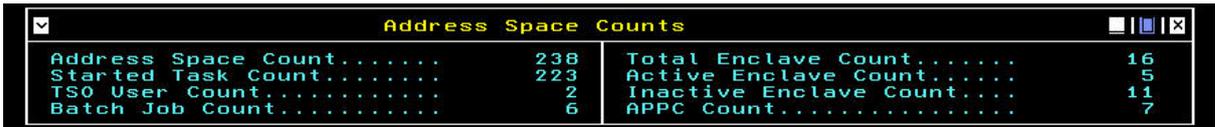


Figure 195: Example of a DETAIL subpanel

**Example 3: TYPE=TEXT**

Specifying TYPE=TEXT results in a subpanel like the one shown in “Figure: Example of a TEXT subpanel” on page 1051.

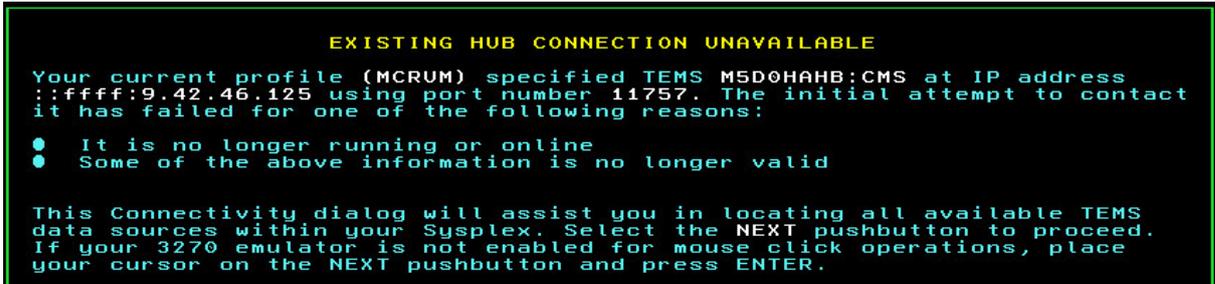


Figure 196: Example of a TEXT subpanel

**Example 4: TYPE=ACTION**

**Example 5: TYPE=PUSHBUTTON**

Specifying TYPE=PUSHBUTTON results in a subpanel like the one shown in “Figure: Example of a PUSHBUTTON subpanel” on page 1051.



Figure 197: Example of a PUSHBUTTON subpanel

**Example 6: TYPE=TABDIALOG**

“Figure: Example of a TABDIALOG subpanel definition and the resulting subpanel” on page 1052 specified by using TYPE=TABDIALOG.

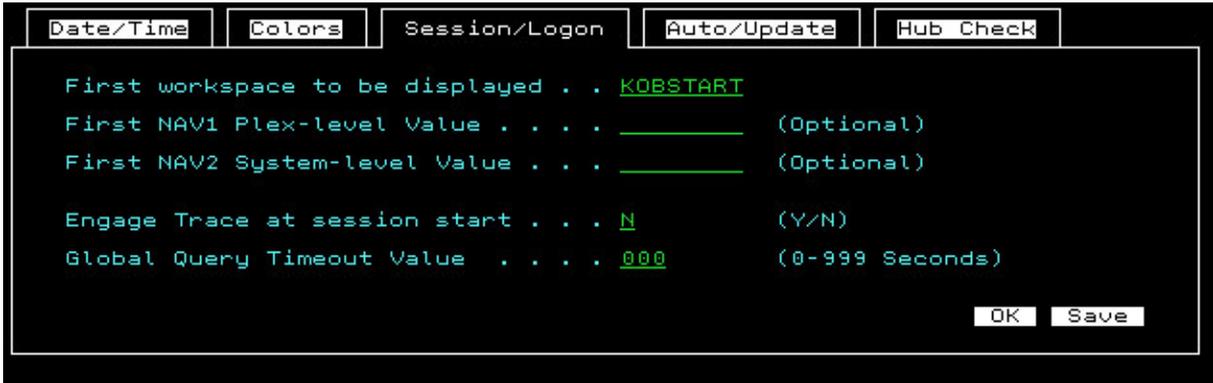


Figure 198: Example of a TABDIALOG subpanel definition and the resulting subpanel

```
<SUBPANEL>
TYPE=TABDIALOG
TAB="Date/Time",KOBPRFDT
TAB="Colors",KOBPRFCL
TAB="Session/Logon",KOBPRFSS
TAB="Auto/Update",KOBPRFAU
TAB="Hub Check",KOBPRFHB
<SUBPANELEND>
```

### Example 7: TYPE=TREE

Specifying TYPE=TREE results in a subpanel like the one shown in Example of a TREE subpanel.

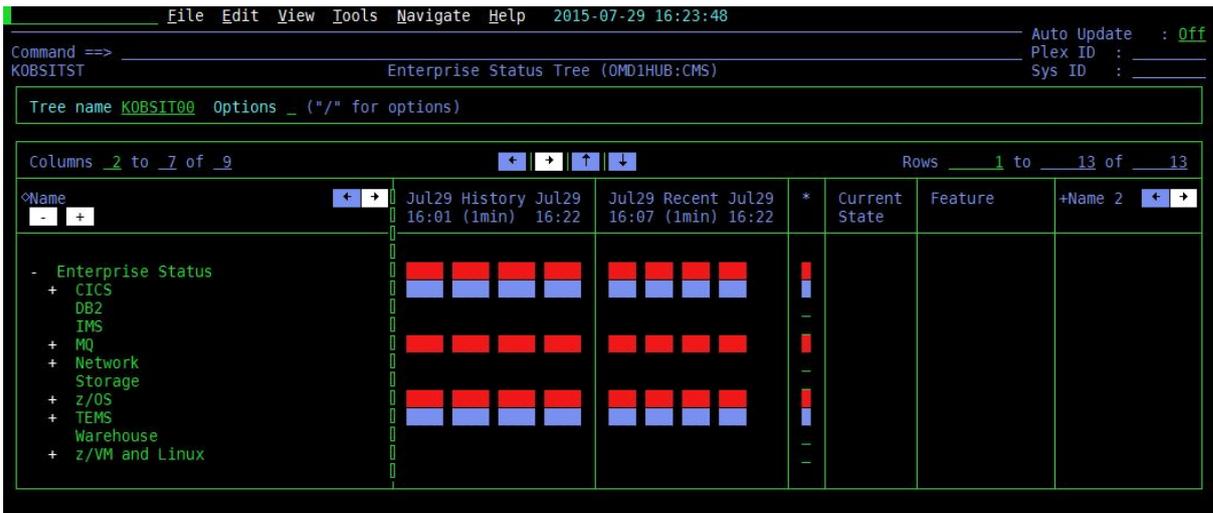


Figure 199: Example of a TREE subpanel

#### VSEPARATORS

Determines whether or not a subpanel displays vertical separators between columns .

#### Possible values

YES, NO

#### Default value

YES

#### Example

VSEPARATORS=NO

#### WHENDATA

Determines whether to expand, maximize, or shrink a subpanel when the subpanel has data to display.

#### Possible values

- Expand

- **Maximize**
- **Shrink.** The row count of the subpanel is dynamically decreased to the number of rows of collected data and subpanel is automatically expanded if collapsed, or maximized if minimized.

**Default value**

Shrink

**Note:** If Expand is specified, code EXPANDCOLLAPSE=Y, so users can collapse the subpanel.

**Example**

WHENDATA=M

**WHENNODATA**

Determines whether to collapse, minimize, or shrink a subpanel when the subpanel has no data to display.

**Possible values**

- **Collapse**
- **Minimize**
- **End (close)**  
If no data is retrieved on the initial query or entry to the workspace, the subpanel is "deleted" and any query it contains is not run again on a refresh until the panel is reentered.
- **Shrink** (the number of rows in the subpanel is dynamically decreased to null when there is no data).
- **Hide.** Use instead of End if you want the subpanel to reappear when data is available again.

**Default value**

Collapse

**Note:** If Collapse is specified, code EXPANDCOLLAPSE=Y so users can expand the subpanel.

**Example**

WHENNODATA=COLLAPSE

**ZOOMCOLS**

Specifies the columns that can be selected for cursor-sensitive navigation (zooming) to another panel. The target panel ID for each column is specified immediately after the column name. In columns that are zoomable, the text is white. This setting must be specified after the subpanel's QUERY statement.

When the cursor is placed on the field for which zooming is defined and user presses ENTER, forward navigation occurs, except when column 1 in a summary panel is selectable. In this case, the subpanel ACTION statements define the destination. By default, S and its associated panel ID are used when column 1 is implicitly selected, but a workspace developer can indicate DEFAULT on any action statement.

**Possible values**

- None
- A comma-delimited list of names of one or more columns specified in DISPLAYCOLS, followed by the name of a target workspace in parentheses
- In a PROLOG or EPILOG stanza, a variable

**Default value**

None

**Example 1: multiple columns with multiple destinations**

In this example, multiple columns are assigned multiple destinations:



<i>Table 80: ISPF variables supported by the enhanced 3270 interface</i>	
<b>Variable Name</b>	<b>Description</b>
ZUSER	User ID
ZSYSID	LPAR name
ZSYSPLEX	Sysplex name
ZAPPLID	Applid of application
ZIPADDR	IP address
ZIPPORT	IP port
ZSPLIT	Split-screen mode in effect (YES or NO)
ZTS	Multicultural support time separator character (:)
ZSCREENW	Screen width
ZSCREEND	Screen length
ZDATEF	Date MM/DD/YYYY
ZSTDYEAR	4-digit year YYYY
ZYEAR	2-digit year YY
ZMONTH	2-digit month MM
ZDAY	2-digit day DD
ZDAYOFWK	Full word day of week
ZJDATE	Julian date YY.DDD
ZJ4DATE	Julian date with 4 digit year YYYY.DDD
ZCS	Currency symbol
ZTHS	Thousands separator
ZTIME	5-digit time HH:MMM
ZCMDLINE	Contains whatever is entered on the command line, in all upper case.
ZCMDLINEMC	Contains whatever is entered on the command line, in mixed case.

“Supported OMEGAMON variables” on page 1055 lists the OMEGAMON-specific variables that are supported by the enhanced 3270 user interface.

<i>Table 81: Supported OMEGAMON variables</i>	
<b>Variable name</b>	<b>Description</b>
ZJOBNAME	Started task name
ZVTAMNETID	VTAM net ID
ZVTAMSSCP	VTAM subsystem control point
ZIPHOSTNAME	IP host name
ZOMEGVRM	OMEGAMON version level
ZOMEGLVL	OMEGAMON build level
ZDOW	3-letter day of week
ZACTIONFILTER	Optionally set by a REXX EXEC to an array of one or more alphanumeric characters that map to the ACTION command characters.

Variable name	Description
ZFILTER $nn$	<p>Specifies the filter for filtering at the agent (where FILTERWHERE=AGENT). <math>nn</math> is a 2-digit number from 01 to 10. The value of the variable must be a column name followed by a comparator, followed by a value. Column names can be 1 to 10 characters, with no trailing blanks. Comparators can be one of the following four symbols: =, &lt;, &gt;, or &lt;&gt;, with no trailing blanks. Values can be alphanumeric and can currently support a trailing asterisk.</p> <p>For example:</p> <pre>SET ZFILTER01=CICSNAME=C* SET ZFILTER02=SOS=1 SET ZFILTER03=TASKS&gt;100</pre>
ZHEADER	For header in message popup panels. Supports up to 46 bytes. For use with ZMESSAGE.
ZMESSAGE	General purpose message service for display on screen. Supports up to 256 bytes. For use with ZHEADER.
ZOMEGLOCK1	If the value is set to N, unlocks the plex field in the workspace so the value can be overtyped. As you navigate forward, the new value is perpetuated and the field is locked again.
ZOMEGLOCK2	If the value is set to N, unlocks the system field in the workspace so the value can be overtyped. As you navigate forward, the new value is perpetuated and the field is locked again.
ZOMEGNAV1	The plex for which data is being displayed.
ZOMEGNAV2	The system, region, or subsystem for which data is being displayed.
ZQUERY	Engages or disengages a query being driven. The REXX EXEC that builds the data field used in the query also sets ZQUERY=YES. The subpanel is coded with QUERYWHEN=ZQUERY so it is driven only when the variable is set (that is, with a positive value like YES). If ZQUERY is null, the query is not driven.
ZSELECTION	Passed into a REXX EXEC in an ONACTION stanza, contains the single character entered by the user. (May be null if user pressed PF3.)
ZVIEWS $nn$	<p>Specifies the filter for filtering existing data (where FILTERWHERE=LOCAL). <math>nn</math> is a 2-digit number from 01 to 10. The value of the variable must be a column name followed by a comparator, followed by a value. Column names can be 1 to 10 characters, with no trailing blanks. Comparators can be one of the following four symbols: =, &lt;, &gt;, or &lt;&gt;, with no trailing blanks. Values can be alphanumeric.</p> <p>For example:</p> <pre>SET ZVIEW01=CICSNAME=CICSABCD SET ZVIEWS02=SOS=1 SET ZVIEWS03=TASKS&gt;100</pre>
ZCLRBOXL	Color variable for box lines.
ZCLRABAR	Color variable for the action bar.
ZCLRCMDL	Color variable for command line

Variable name	Description
ZCLRABKW	Color variable for action bar keywords
ZCLRPANH	Color variable for panel header
ZCLRPKEY	Color variable for panel keywords
ZCLRPID	Color variable for panel ID
ZCLRPANT	Color variable for panel trailer
ZCLRSUBH	Color variable for subpanel header
ZCLRTEXT	Color variable for standard text
ZCLRCOLH	Color variable for column headers
ZCLRPB	Color variable for push buttons
ZCLRGOOD	Color variable for status OK/Good
ZCLRWARN	Color variable for status Warning/caution
ZCLRERRC	Color variable for status Error/Critical

**Note:** Use color variables instead of hard coding a color in an ISPF attribute

### User-defined variables

The enhanced 3270 user interface supports the use of user-defined variables. Variables can be created and set anywhere in a workspace definition using a SET statement. In addition, columns names specified using the KEYCOLS keyword in a previously invoked workspace can be used as variables in subsequent panels, without using a SET statement.

Variables can be set anywhere in a definition, but they are processed differently depending upon where the SET statement appears.

- Variables set in an ALIASCOMMANDS stanza can be used in fastpath commands from that workspace, if SCOPE=LOCAL, or from any workspace after they have been defined until they are deleted, if SCOPE=GLOBAL.
- Variables set in PROLOG stanzas are assigned during PROLOG execution. Assignment occurs after any imbeds and before data collection. If a REXX exec is also present, the SET commands are evaluated according to their placement, before, or after, the REXX EXEC call.
- Variables set in EPILOG stanzas are assigned during EPILOG execution. Assignment occurs after data collection or status assessment and before the screen is constructed. If a REXX exec is also present, the SET commands are evaluated according to their placement, before, or after, the REXX EXEC call.
- Variables set in an ONACTION stanza are executed directly after key column assignment, and just before any navigation that results from an action command. (Key columns are assigned before navigating forward if any action command is driven from a particular subpanel.)
- Variables set anywhere else are processed when the workspace is loaded.

Variable names may consist of up to 16 characters.

**Note:** Do not create variables that begin with Z (or z). That letter is reserved for system variables.

Variable data may consist of up to 64 characters and can be set to specified values or to other variables. For example:

```
SET &var1=mytext
SET &var2=&colname
```

There is a limit of 20 deferred SET commands for a workspace. (Deferred SET commands are those in PROLOG, EPILOG, and ONACTION stanzas.)

### Example: column names as variables

Column names specified using the KEYCOLS keyword in a previously invoked panel can be used as variables in subsequent panel definitions, without using a SET statement. For example, if the following column names have been set in a previous panel:

```
KEYCOLS='TRANID,USERID,TASKNO,TERMID,CICSNAME,SYSTEMID,ORIGINNODE'
```

one or more of these names can be used as variables in a header, query, or any text in a panel navigated to from the first panel. For example:

```
HEADER='Details for Transaction &TRANID Task &TASKNO'  
QUERY='SELECT TRANID, TASKNO, RTYPE, RNAME, STATE, CPUTIME, .SUSPTIME,  
ELAPTIME, CICSTRD.USEDA16, USEDB16,  
ATCHTIME, TIMEOFSU, SUSPDUE, FACTYPE, FACID, ORIGTRID, UMBTRID,  
QUEUE, FIRSTPGM, CURRPGM, USERID, EXECCMD, PURGEABL, PURGSTAT,  
SUSPTYPE, UOWSTATE,  
FROM OMCICS.CICSTRD,  
WHERE ORIGINNODE = "&SYSTEMID.&CICSNAME"  
AND CICSTRD.TRANID = "&TRANID"  
AND CICSTRD.TASKNO = "&TASKNO"'.
```

## Supported ISPF statements

The enhanced 3270 user interface supports a subset of ISPF statements.

The following statements are supported in an ISPF stanza in a subpanel or popup panel:

```
)LIST  
)BODY  
)INIT  
)ATTR  
)PROC  
)PNTS  
)END
```

LIST supports the following arguments:

### POPUACTION

Lists the actions in a subpanel in the popup panel definition.

### PANELACTION

Lists the actions in the subpanel from which the popup panel was invoked.

### DYNAMIC

Lists actions from dynamically generated list, such as a list generated by a REXX exec.

### TRACETABLE

### STACK

BODY supports the following arguments:

#### WIDTH (*n*)

#### WINDOW (DYNAMIC|*width,depth*)

)ATTR supports the following field types:

- INPUT
- OUTPUT
- TEXT
- PS (Point-and-Shoot)

)ATTR supports the following keywords:

- CAPS
- COLOR

- HILITE
- JUST
- INTENS
- SKIP

)INIT supports up to 32 system (Z) variables.

## Tags for formatting text

The enhanced 3270 user interface supports the use of a small subset of HTML tags and some proprietary tags that can be used to format the text specified using the TEXT keyword in a subpanel of TYPE=TEXT.

Note that formatting is not required. Freeform text is supported in these subpanels.

### HTML tags

The enhanced 3270 user interface supports use of the HTML tags shown in “Supported HTML tags” on page 1059.

Table 82: Supported HTML tags		
Type	Tagging	Description
Heading	<h1></h1>	Text enclosed by h1 tags is displayed in all capitals and is followed by a line break. The text can be centered using a <center> tag. For example: <h1><center>TEXT IN CAPS</h1>
Paragraph	<p></p>	Inserts two line breaks (that is, an empty line) before the text.
Unordered list	<ul></ul>	Displays the list items between the tags in a bulleted list.
Ordered list	<ol></ol>	Displays the list items between the tags in a sequentially numbered list.
List items	<li></li>	Contains the text for an entry in a bulleted or numbered list.
Line break	 	Forces a line break. Can be used to create an empty line.
Hypertext link	<a href="panelid"></a>	Text enclosed by the <a></a> (anchor) tags is white (selectable) and underlined. Cursoring over the text and pressing Enter displays the workspace referenced. Only links to other workspace panels are supported.
Emphasis	<em></em>	Text enclosed by the tags is underlined.
Comment	<!-- -->	Text is not displayed.

Spaces between words within tags are preserved, so spaces can be used to align text.

### Additional tags

The enhanced 3270 user interface supports the proprietary formatting tags shown in “Non-HTML formatting tags” on page 1059.

Table 83: Non-HTML formatting tags		
Type	Tagging	Description
Color	<color=color></color>	Can be placed around any word or element. The color is in effect until the end tag or the end of the subpanel if there is no end tag. Any color name supported by the 3270 interface is supported.
Alignment	<center>	Centers text. The center alignment is in effect until the end tag for the element.

## Example

The following example shows the use of the TEXT keyword to specify the text to appear in the subpanel.

```
/*
/*          TEXT SUBPANEL
/*
/*
/*
<WORKSPACE>

<SUBPANEL>
TYPE=TEXT

HEADER='Help for &INSPECT'

TEXT='<h1><center>This is a centered H1 Header</h1>
<br>
Welcome to SYSPLEX <color=yellow>&ZSYSPLEX</color>.
<WORKSPACEEND>
```

## Associating a mouse click with the Enter key

Many 3270 emulators support an option to associate a mouse click with the Enter key.

### About this task

You might prefer to associate a mouse click with the Enter key in your 3270 emulator session. After you make this association, in contexts where you normally “click and enter”, you can instead “double click.”

### Procedure

- Locatepoint and selectormouse clickconfiguration options for your emulator. For example, in an IBM Personal Communications emulator window, select **Edit > Preferences > Hotspots**. The **Hotspots Setup** window opens. Select **ENTER at cursor position** and click **OK**.

### Result

You can now “double click” with your mouse in place of clicking and pressing Enter for your 3270 emulator session.

## Accessibility features for OMEGAMON® Enhanced 3270 user interface

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

The major accessibility features in this product enable users in the following ways:

- Use assistive technologies, such as screen-reader software and digital speech synthesizer, to hear what is displayed on the screen. Consult the product documentation of the assistive technology for details on using those technologies with this product.
- Operate specific or equivalent features using only the keyboard.
- Magnify what is displayed on the screen.

In addition, the product documentation was modified to include the following features to aid accessibility:

- All documentation is available in both HTML and convertible PDF formats to give the maximum opportunity for users to apply screen-reader software.
- All images in the documentation are provided with alternative text so that users with vision impairments can understand the contents of the images.

### Accessibility features

The following list includes the major accessibility features supported by the OMEGAMON® Enhanced 3270 user interface:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers

- Keys that are discernible by touch but do not activate just by touching them
- Industry-standard devices for ports and connectors
- The attachment of alternative input and output devices

The OMEGAMON® Enhanced 3270 user interface guide and its related publications are accessibility-enabled.

### **Navigating the interface using the keyboard**

Standard shortcut and accelerator keys are used by the product and are documented by the terminal emulator product. See the documentation provided by your terminal emulator for more information.

### **Magnifying what is displayed on the screen**

The Enhanced 3270 user interface can be used with any 3270 emulator that supports the APL character set. The interface supports screen sizes of 24 x 80, 32 x 80, 43 x 80, 27 x 132, and 62 x 160. Choose the resolution that best suits your requirements. PTF UA76751 enables some 3270 emulators that do not support all APF characters to be used for the Enhanced 3270 user interface.

### **Interface information**

The OMEGAMON® Enhanced 3270 user interface supports all the accessibility features supported by your emulator. If you are using IBM® Personal Communications, for information on its accessibility features, see [Using Emulator Sessions](#). If you are using a third-party emulator, see the documentation for that product for accessibility information.

### **IBM® and accessibility**

See the [IBM® Human Ability and Accessibility Center](#) for more information about the commitment that IBM® has to accessibility.

## **OMEGAMON multi-tenancy**

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OMEGAMON multi-tenancy mode is a feature in the OMEGAMON enhanced 3270 user interface that allows the monitoring of distinctly separate sets of resources. In multi-tenancy mode, users can access information for resources assigned to their tenant only and cannot access information about the resources of another tenant.

### **Overview of OMEGAMON multi-tenancy**

The OMEGAMON multi-tenancy solution allows the monitoring of distinctly separate sets of resources. With OMEGAMON multi-tenancy, general users can access information for resources assigned to their tenant only and cannot access information about the resources of another tenant. For example, an IT service provider or data center might provide services to multiple, unrelated customers and the services might need to be tracked separately by customer. In the OMEGAMON multi-tenancy solution, each customer would be considered a tenant. The OMEGAMON administrator or system programmer would configure the multi-tenancy feature, and the general end user would have access to only those OMEGAMON products and resources that are assigned to the customer with which the user is associated.

### **OMEGAMON multi-tenancy concepts and architecture**

Use this topic to familiarize yourself with the concepts and architecture upon which the OMEGAMON multi-tenancy feature is based.

#### **Monitoring environment**

The monitoring environment for an OMEGAMON multi-tenancy scenario has the following components:

- Tivoli Enterprise Monitoring Server (TEMS). The OMEGAMON multi-tenancy solution allows data collection from multiple LPARs using a single TEMS.
- Tivoli Enterprise Monitoring Agents (TEMA)
- Enhanced 3270 user interface (enhanced 3270UI)
- Tivoli Enterprise Portal (TEP). The TEP is used for configuration.
- User-defined Managed Systems Lists (MSLs)

- User-defined tenant (customer) definitions

## Managed systems lists (MSLs)

The OMEGAMON multi-tenancy feature uses *Managed Systems Lists (MSLs)*, which are defined sets of resources, to restrict access to resources by tenant. The following explanation describes how the MSLs are used.

In general, for data collection, an OMEGAMON client issues an SQL query to a TEMS, which in turn is passed to one or more agents. The SQL query requests one or more columns from one or more tables. The key element in the query is the information that tells the TEMS which agent to invoke. This element is called an *origin node* and is a unique token that the agent registers with the TEMS when the agent starts up.

The following example requests information for a CICS region on an LPAR:

```
SELECT COLUMN1, COLUMN2, COLUMN3, FROM PRODUCT.CICSTABLE,
WHERE (ORIGINNODE = 'LPAR.CICSNAME' )
```

The origin node is referred to as a *Managed System Name (MSN)* and identifies one agent monitoring one system or subsystem. However, many requests need to target multiple agents monitoring multiple systems, and so instead of an origin node, a *Managed Systems List (MSL)* is used. An MSL is a list of MSNs, or origin nodes.

The following example requests information using an MSL:

```
SELECT COLUMN1, COLUMN2, COLUMN3, FROM PRODUCT.PLEXTABLE,
WHERE SYSTEM.PARMA=( 'NODELIST' , "OMEGAMON-CICS-LIST" ,18)
```

In this example, the OMEGAMON-CICS-LIST is an MSL that contains one MSN for every CICS region that belongs in the same CICSplex.

Each OMEGAMON product provides an out-of-the-box MSL that is used to contain all discovered systems or subsystems that belong to it. In an OMEGAMON single-tenant configuration, the product-provided MSLs are used for data collection, allowing inclusion of all discovered resources. In an OMEGAMON multi-tenancy configuration, for each tenant, you must define one or more MSLs (one MSL for each *managed system type*) and include only those systems that belong to that tenant. The user-defined MSLs are then used in the system-generated SQL queries for data collection and limit the scope of collection to only those resources that have been included.

OMEGAMON products that generate queries using the following format are supported in multi-tenancy mode:

```
SYSTEM.PARMA=( 'NODELIST' , "msl" , nn)
```

Where *msl* is the product-provided MSL name and *nn* is the length of the name in characters.

**Note:** A *managed systems list* is also referred to as a *managed system list* and a *managed system group*.

## Silent first workspace

The OMEGAMON multi-tenancy solution uses a silent workspace (KOBLOGON) as the first workspace. The silent first workspace retrieves the multi-tenancy information for the user ID that is logging on, and then calls the designated first workspace to display.

## OMEGAMON multi-tenancy user types

This topic describes the available multi-tenancy user roles and the differences between them.

In a multi-tenancy environment, there are three types of users: a regular user, a power user and a super user. Each user type has a different level of access to resources and features. The regular user and the power user have access only to the tenant (customer) to which the user is defined, whereas the super user has access to all tenants in the environment. Additionally, the regular user and the power user have limited access to some of the enhanced 3270 user interface features, whereas the super user has access to all features. The following list describes access by user type.

### user

The regular tenant user has access to resources only for the tenant (customer) to which the user is defined, with limited access to some enhanced 3270 user interface features. The following list describes the available access for the regular tenant user:

- Access to data for the customer to which user ID is defined
- Access to products (product tabs) to which user ID is defined

**Note:** The PF9 key, used for lateral navigation between products, is disabled.

- Access to a subset of menu options
- All icons are disabled
- Access to a subset of commands
- The **=panelid** navigation command is disabled
- The Plex ID (NAV1) field is read-only
- The Sys ID (NAV2) field is unlocked, or is as set by the individual OMEGAMON product
- The name of the customer is displayed in the footer

#### power user

The power user has access to resources only for the tenant (customer) to which the user is defined, with access to more enhanced 3270 user interface features than the regular tenant user. The following list describes the available access for the power user:

- Access to data for the customer to which user ID is defined
- Access to all products for the customer

**Note:** The PF9 key, used for lateral navigation between products, is enabled.

- Access to all menu options
- Access to all icons
- Access to all commands
- The **=panelid** navigation command is enabled.
- The Plex ID (NAV1) field is read-only
- The Sys ID (NAV2) field is unlocked, or is as set by the individual OMEGAMON product
- The name of the customer is displayed in the footer

#### super user

The super user has access to all resources for all customers and can access all enhanced 3270 user interface features. The super user has the same abilities as an OMEGAMON user in an environment without multi-tenancy enabled. A super user designation allows the user ID to log on to the enhanced 3270 user interface address space, running in multi-tenancy mode, and not be restricted by any multi-tenancy rules. This capability allows an OMEGAMON system programmer to log on to a multi-tenancy address space and access data from all sources, while regular users are restricted to their own customer views. The following list describes the access for the super user:

- Access to data for all customers
- Access to all products for all customers

**Note:** The PF9 key, used for lateral navigation between products, is enabled.

- Access to all menu options
- Access to all icons
- Access to all commands
- The **=panelid** navigation command is enabled.

- The Plex ID (NAV1) field is unlocked
- The Sys ID (NAV2) field is unlocked, or is as set by the individual OMEGAMON product
- The name of the HUB to which the user is connected is displayed in the footer

For more information about some of the enhanced 3270 user interface features that are unique to operating in multi-tenancy mode, see [“Tenant workspaces” on page 1077](#).

## OMEGAMON multi-tenancy terminology

This topic describes terms as they apply to the OMEGAMON multi-tenancy feature.

### customer

A tenant in an OMEGAMON multi-tenancy configuration. For each customer, a distinct set of resources (defined with MSLs), users, and groups are defined. A user for a particular customer can only access the resources defined to that customer. Multiple customers can exist in multi-tenancy mode.

### group

A tenant definition that logically associates one or more users with the same logon experience and working environment. A group defines the first workspace and the product tabs to display when a user logs on.

### managed system group

See *Managed Systems List*.

### Managed Systems List (MSL)

A defined set of resources. Specifically, an MSL is a list of *Managed Systems Nodes (MSNs)*. The MSL is used to control the scope of data collection. Each OMEGAMON product provides an out-of-the-box MSL that contains all discovered systems or subsystems that belong to it. In a multi-tenancy configuration, one or more MSLs are defined for each tenant to limit the scope of collection. Also referred to as a *managed system list* and a *managed system group*.

### Managed System Node (MSN)

A unique token used for agent identification. An MSN is used in data collection to identify one agent monitoring one system or subsystem. Also referred to as an *origin node*.

### multi-tenancy mode

A feature in the OMEGAMON enhanced 3270 user interface that allows the monitoring of distinctly separate sets of resources.

### managed system type

In OMEGAMON multi-tenancy, the managed system type is a pre-defined value used to identify the OMEGAMON agent or type of managed system when specifying user-defined MSLs in customer definitions. For more information, see [“Creating tenant definitions” on page 1067](#).

### Origin node

See *Managed System Name (MSN)*.

### power user

A designation for a user ID that allows the user access to resources only for the tenant (customer) to which the user is defined, with access to more enhanced 3270 user interface features than the regular tenant user, such as access to all menu options, icons and commands.

### super user

A designation for a user ID that allows the user to log on to the enhanced 3270 user interface address space, running in multi-tenancy mode, and not be restricted by any multi-tenancy rules. This setting allows an OMEGAMON System Programmer to log on to a multi-tenancy address space and access data from all sources while tenants are restricted to their own customer views.

### tenant

A monitoring environment consisting of a distinct set of resources for data collection. See also *customer*.

### tenant user

A defined user in a multi-tenancy environment. The regular tenant user has access to resources only for the tenant (customer) to which the user is defined and has limited access to some enhanced 3270 user interface features.

### user

A tenant definition that establishes the group and customer to which a user ID belongs and indicates if the user ID is designated as a *power user* or a *super user*. Unless the user is designated as a super user, a user can access only those resources that are assigned to the customer to which the user ID belongs.

## Installation

Review information about installing OMEGAMON multi-tenancy support.

OMEGAMON multi-tenancy support is installed as part of OMNIMON Base V7.5.0. For information about installing the framework, see the *Program Directory*.

## Configuration

Perform the necessary steps to configure the OMEGAMON enhanced 3270 user interface to operate in multi-tenancy mode.

### About this task

To configure the OMEGAMON enhanced 3270 user interface for operation in multi-tenancy mode, you must define information about the tenant and the systems to be managed, and you must enable the feature.

Perform the following procedure for each tenant.

### Procedure

1. Define the Managed Systems Lists. See [“Defining a Managed Systems List \(MSL\)” on page 1065](#).
2. Define the customer (tenant) and the relationships between the customer and the MSLs. The required definitions can be made in PDS members or in RACF. See [“Creating tenant definitions” on page 1067](#).
3. Enable multi-tenancy mode. See [“Enabling multi-tenancy mode” on page 1076](#).

## Defining a Managed Systems List (MSL)

Define the MSLs for a tenant.

The Managed Systems List (MSL) is a list of Managed System Name (MSN) entries (or, origin nodes).

Each OMEGAMON provides an out-of-the-box MSL that contains all discovered systems or subsystems that belong to it. This MSL is all that is needed for an environment consisting of only a single tenant.

For an environment that has multiple tenants, one or more MSLs must be defined for each tenant to limit the scope of collection to that of the tenant.

It is recommended that you use the TEP to create your MSLs.

#### Notes:

- A *managed systems list* is also referred to as a *managed system list* and a *managed system group*.
- The TEP **Object Group Editor** stores MSL and MSN data in the Hub TEMS to which it is connected. If the enhanced 3270 user interface is connected to the same Hub TEMS, it has access to that same stored data. Equally true, if the enhanced 3270 user interface **Object Editor** stores data into the TEMS, the TEP will have access to that same stored data.

Before you create your MSLs for your multi-tenant implementation, review the following considerations:

- Naming convention. See [“Naming convention” on page 1065](#).
- Scope of resources to include in the MSL. See [“Scope of resources” on page 1066](#).

### Naming convention

When creating managed systems lists, it is important to choose a naming convention that is meaningful. Although there are not any requirements or validation for the name, the following suggested format is recommended:

`env_OMcode_customer`

Where:

- `env` is the environment, such as T for Test, P for Production, or D for Development
- `OMcode` is the OMEGAMON product code, such as C5 for CICS or I5 for IMS
- `customer` is the customer ID (up to 10 characters)

Additionally, the use of uppercase letters is recommended.

For example, T\_C5\_ACMECORP would be the MSL for CICS test regions for the ACME Corporation.

**Note:** A benefit of using this naming convention is that in the required Customer definition (described in [“Creating tenant definitions” on page 1067](#)), if the MSL name ends with ?, then the customer ID will be substituted.

### Scope of resources

Before you create your MSL, plan what managed system nodes to include; for example, you can create an MSL containing a single CICS region. One MSL must be created for each managed system type.

The following conditions apply when creating your MSL:

- In IBM Z® OMEGAMON® for CICS, if you want to have a CICSplex per LPAR, you must define each one.
- The IBM OMEGAMON for Networks on z/OS agent and the IBM Z® OMEGAMON® Network Monitor agent each require an MSL containing three types of managed systems. Each managed system name will include an LPAR name. The three managed systems can be described as follows:
  - `AgentID:LPAR:KN3AGENT`
  - `TCPIP:LPAR`
  - `VTAM:LPAR`

### Procedure

To create your MSL in TEP, see [“Creating an MSL using TEP” on page 1066](#).

### Creating an MSL using TEP

Use the Tivoli Enterprise Portal (TEP) to create a managed systems list (MSL) for the tenant.

### Before you begin

Review the content in [“Defining a Managed Systems List \(MSL\)” on page 1065](#).

### About this task

Use the **Object Group Editor** in the Tivoli Enterprise Portal (TEP) to create one or more MSLs for each tenant. One MSL must be created for each managed system type.

Perform the following steps for each MSL to create.

#### Notes:

- A *managed systems list* is referred to as a *managed system group* in the TEP.
- For more information about using the **Object Group Editor**, see the [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#).

### Procedure

1. Click the **Object Group Editor** icon in the Tivoli Enterprise Portal.

2. Under **Groups**, if the **Managed system** node is collapsed, expand it.
3. Click one of the available managed system types, then click **Create new group**.
4. Type a descriptive name for the managed system group and click **OK**.  
The new managed system group is displayed in the managed system folder.
5. Select a managed system from the **Available Managed Systems** list and move it to the **Assigned** list. You can select multiple managed systems by holding down Ctrl while clicking each managed system. You can also, after selecting a managed system, use Shift+click to select all managed systems between this selection and the first selection.
6. Save your changes and either keep the editor open with **Apply** or exit with **OK**. The managed system group is now available.

## What to do next

Create customer, group, and user definitions for the tenant. See [“Creating tenant definitions” on page 1067](#).

## Creating tenant definitions

Create the customer, group, and user definitions for an OMEGAMON multi-tenancy environment.

### About this task

For each tenant, you must define the customer and the relationships between the customer and the MSLs. This process requires the definition of the following components:

- **Customer.** A customer definition contains a customer ID (up to 10 characters), a descriptive customer name (up to 50 characters), and the list of MSLs for the customer. Each managed system type requires a unique MSL. One customer definition is created for each tenant.
- **Group.** A group definition defines the group to which a user will belong. For each group, you also specify the first workspace to display at logon and the OMEGAMON tabs to display in the workspace. Multiple groups can be defined and can be used by multiple tenants.
- **User.** A user definition specifies information for an individual z/OS TSO user ID. This information includes the group and the customer to which the user belongs; a user can belong to one group and one customer only. A user can also be defined as a *power user* or a *super user*. The differences between the multi-tenancy user types are as follows:
  - A regular tenant user has access to resources only for the tenant (customer) to which the user is defined and has limited access to some enhanced 3270 user interface features.
  - A *power user* has access to resources only for the tenant (customer) to which the user is defined, with access to more enhanced 3270 user interface features than the regular tenant user, such as access to all menu options, icons and commands.
  - A *super user* has access to all resources for all customers and can access all enhanced 3270 user interface features.

For more information, see [“OMEGAMON multi-tenancy user types” on page 1062](#).

You can create the tenant definitions in PDS members or in RACF, which can provide greater security. Because the RACF implementation typically requires the involvement of your RACF administrator, it is recommended that you test your tenant definitions using PDS members and then, when satisfied, transfer the definitions to RACF.

### Procedure

1. Use one of the following procedures to create your tenant definitions:
  - [“Creating tenant definitions in PDS members” on page 1068](#)
  - [“Creating tenant definitions in RACF” on page 1070](#)
2. Indicate if the tenant definitions are to be used in the PDS members or in RACF. See [“Setting the location of the tenant definitions” on page 1074](#).

## Creating tenant definitions in PDS members

Define the customer and the relationships between the customer and the MSLs using PDS members.

### About this task

For each tenant, you must define the customer and the relationships between the customer and the MSLs. This process requires the definition of the following components: customer, group, users. Each of these components is defined in a PDS member. By default, the PDS members are located in the UKOBDATF data set that is allocated to the enhanced 3270 user interface address space (allocated to the RKOBPROF DD name). Template members are provided in data set RKOBDATF and must be copied to data set UKOBDATF for customization.

**Note:** You can change the location of the PDS members using override embed member **MULTI\_TENANCY\_DDNAME**.

The following list describes the definitions to be made.

**Note:** The definitions described in this topic can also be made in RACF for greater security. For more information, see [“Creating tenant definitions in RACF” on page 1070](#).

- **Customer.** Customers definitions are in member KOBCUST. Each customer entry defines the customer ID, title, and associated MSLs for the customer. The following example shows the format for the customer definition:

```
CUSTOMER:customerID,  
CUSTNAME:"customerTitle",  
msType="msl",  
msType="msl",  
msType="msl"
```

Where:

- *customerID* is the customer ID, which can be up to 10 characters.
- *customerTitle* is the unique customer descriptive title, which can be up to 50 characters.
- *msType* is the managed system type. A separate definition is made for each type. Valid values: ZOS, CICS, IMS, DB2, CTG, MQ, QSG, IIB, STOR, MFN, TCP, VTAM, MFAD, JAVA.

**Note:** With APAR OA59694, managed system type MFN has been replaced with the following managed system types for IBM OMEGAMON for Networks for z/OS: TCP, VTAM, and MFAD (Administration). It is recommended that you use TCP, VTAM, and MFAD instead of MFN.

- *msl* is the name of the managed system list (group) for the respective managed system type. A unique MSL must be specified for each managed system type. If the MSL name ends with ?, then the customer ID will be substituted. See [“Naming convention” on page 1065](#) for the recommended MSL name format.

The following example shows a customer definition. For each MSL name ending with ?, the ? is replaced by ACMECORP. For example, CICS="T\_C5\_?" is converted to CICS="T\_C5\_ACMECORP".

```
CUSTOMER:ACMECORP,  
CUSTNAME:"UNIQUE CUSTOMER TITLE",  
ZOS="T_M5_ACMECORP",  
CICS="T_C5_?",  
IMS="T_I5_ACMECORP",  
DB2="T_D5_?",  
CTG="T_GW_?",  
MQ="T_MQ_ACMECORP",  
QSG="T_QSG_ACMECORP",  
IIB="T_IIB_ACMECORP",
```

```

STOR="T_S3_?",
MFN="T_N3_ACMECORP",
TCP="T_N3_TCP_ACMECORP"
VTAM="T_N3_VTAM_ACMECORP"
MFAD="T_N3_ADMIN_ACMECORP"
JAVA="T_JJ_?"

```

- **Group.** Group definitions are in member KOBGROUP. This member defines the groups to which a user will belong. In each group entry, you also specify the first workspace to be displayed at logon and the OMEGAMON tabs to be displayed in the workspace for the group. The following example shows the format for a group definition:

```

GROUP:group, FIRSTWS=workspace,
SHOWEVT=n, SHOWZOS=n, SHOWCICS=n, SHOWCTG=n, SHOWIMS=n,
SHOWDB2=n, SHOWMQ=n, SHOWIIB=n, SHOWMFN=n, SHOWSTOR=n, SHOWJAVA=n

```

Where:

- *group* is the group name, which can be up to 10 characters.
- *workspace* is the workspace to display at logon, which is an 8-character panel ID.
- *n* specifies whether the respective tab is displayed in the first workspace. Valid values are Y and N. The variables and corresponding tabs are as follows:

Table 84: OMEGAMON tab options in first workspace	
Option	Tab
SHOWEVT	<b>Events</b> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> Multi-tenancy mode is not supported for the Events tab. The user will see all available resources and will not be restricted to only those resources in the user-defined MSLs for the tenant.</p> </div>
SHOWZOS	<b>z/OS</b>
SHOWCICS	<b>CICS</b>
SHOWCTG	<b>C/TG</b>
SHOWIMS	<b>IMS</b>
SHOWDB2	<b>DB2</b>
SHOWMQ	<b>MQ</b> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The MQ tab displays the queue-sharing group (QSG) information. To include QSG information, you must define an MSL for the QSG managed system type for the customer.</p> </div>
SHOWIIB	n/a <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> There is not a corresponding tab for the Integration Bus (IIB) agent. To view IIB information, use the <b>Integration Bus</b> option on the <b>Navigate</b> menu.</p> </div>
SHOWMFN	<b>MFN</b> (Mainframe Networks)
SHOWSTOR	<b>STOR</b> (Storage)

Option	Tab
SHOWJAVA	JVM

The following example shows a group definition.

```
GROUP:OMEGCICS,FIRSTWS=KOBSCICS,
SHOWEVT=N,SHOWZOS=Y,SHOWCICS=Y,SHOWCTG=Y,SHOWIMS=N,
SHOWDB2=N,SHOWMQ=Y,SHOWIIB=Y,SHOWMFN=N,SHOWSTOR=N,SHOWJAVA=Y
```

- **User.** User definitions are in member KOBUSER. This member defines information about individual user IDs. A user can also be defined as a *power user* or a *super user*.

**Note:** For more information, see [“OMEGAMON multi-tenancy user types” on page 1062](#).

The following example shows the format for the definition of a user:

```
USERID:user GROUP:group POWER:Y|N SUPER:Y|N CUSTOMER=customerID
```

Where:

- *user* is the z/OS TSO user ID, which can be up to 8 characters. A trailing asterisk wildcard is supported (for example, TD\*).
- *group* is the associated group name, which can be up to 10 characters.
- *customerID* is the associated customer ID, which can be up to 10 characters. This parameter is omitted for super users.

The following example shows definitions for the different types of users:

```
USERID:TSUSERA GROUP:OMEGALL SUPER:Y
USERID:TSUSERB GROUP:OMEGCICS POWER:Y CUSTOMER=ACMECORP
USERID:TSUSERC GROUP:OMEGCICS CUSTOMER=ACMECORP
USERID:TD* GROUP:OMEGCICS CUSTOMER=ACMECORP
```

Use the following procedure to create the customer, group and user definitions in PDS members.

## Procedure

1. Locate and copy the KOBUCUST, KOBUSER and KOBGROUP members from the RKOBDATF data set to the UKOBDATF data set.
2. Edit the new KOBUCUST, KOBGROUP, and KOBUSER members in the UKOBDATF data set to define information about the customer, groups and users. Use a file editor such as the ISPF editor to do this. For details about the definitions, see [About this task](#).

## What to do next

Because tenant definitions can exist in either PDS members or an external security system, you must indicate the location of the tenant definitions that you want to use. For more information, see [“Setting the location of the tenant definitions” on page 1074](#).

## Creating tenant definitions in RACF

Secure your OMEGAMON enhanced 3270 user interface multi-tenancy environment using RACF. This topic describes the profiles that must be created.

## Before you begin

Because of the authority that is required, some of the steps in this task must be performed by the RACF administrator. It is recommended that you test your tenant definitions using PDS members and then, when satisfied, transfer the definitions to RACF.

**Note:** The definitions described in this topic can also be made in PDS members. For more information, see [“Creating tenant definitions in PDS members” on page 1068](#).

Additionally, if RACF is used, the OMEGAMON enhanced 3270 user interface started task needs to be authorized to issue RACROUTE EXTRACT requests for CSDATA fields for any user ID that logs in to the enhanced 3270 user interface.

## About this task

To secure your multi-tenancy environment using RACF, you must create profiles for the tenant. You create the customer, group, and user definitions for the tenant in RACF using the following profiles:

- To create customer and group definitions, use RACF general resource profiles in the following naming patterns, respectively:

```
KOBUI.MULTI.CUST.customerID
```

```
KOBUI.MULTI.GROUP.group
```

You must create a resource for each customer and group within the security class specified in parameter **RTE\_SECURITY\_CLASS**.

Customer and group details are defined by setting parameters in the installation data field and, if additional space is needed, in the application data field. A parameter and its value must be defined entirely in either field; and, if a parameter is specified in both places, the definition in the application data field is used.

**Note:** Installation data (INSTDATA) and application data (APPLDATA) are limited to 255 characters each.

- To create user definitions, use RACF user profiles.

The following list describes the definitions:

- Customer.** A resource is created for each customer. The customer ID is defined as a resource using the naming pattern `KOBUI.MULTI.CUST.customerID`. The customer details are defined as installation data (and, if additional space is needed, application data) for the resource. The following example shows a customer definition:

```
CLASS      NAME
-----
class      KOBUI.MULTI.CUST.customerID

LEVEL  OWNER      UNIVERSAL ACCESS  YOUR ACCESS  WARNING
-----
 00    ownerid          NONE              NONE         NO

INSTALLATION DATA
-----
msType="msl" CUSTNAME="customerTitle"

APPLICATION DATA
-----
NONE

AUDITING
-----
FAILURES(READ)

NOTIFY
-----
NO USER TO BE NOTIFIED
```

Where:

- `class` is the name of the RACF security class specified in parameter **RTE\_SECURITY\_CLASS**.
- `customerID` is the customer ID.

- *customerTitle* is the unique customer descriptive title, which can be up to 50 characters.

**Tip:** If the entire customer name cannot be specified in the installation data due to the 255-character limit, it can be specified in the application data, as follows:

```
INSTALLATION DATA
-----
msType="msl"

APPLICATION DATA
-----
CUSTNAME="customerTitle"
```

- *msType* is the managed system type. A separate definition is made for each type. Valid values: ZOS, CICS, IMS, DB2, CTG, MQ, QSG, IIB, STOR, MFN, TCP, VTAM, MFAD, JAVA.

**Note:** With APAR OA59694, managed system type MFN has been replaced with the following managed system types for IBM OMEGAMON for Networks for z/OS: TCP, VTAM, and MFAD (Administration). It is recommended that you use TCP, VTAM, and MFAD instead of MFN.

- *msl* is the name of the managed system list (group) for the respective managed system type. A unique MSL must be specified for each managed system type. If the MSL name ends with ?, then the customer ID will be substituted. See [“Naming convention” on page 1065](#) for the recommended MSL name format.
- **Group.** A resource is created for each group. The group name is defined as a resource using the naming pattern `KOBUI.MULTI.GROUP.group`. The group details are defined as installation data (and, if additional space is needed, application data) for the resource. The following example shows a group definition:

```
CLASS      NAME
-----
class      KOBUI.MULTI.GROUP.group

LEVEL  OWNER      UNIVERSAL ACCESS  YOUR ACCESS  WARNING
-----
  00   ownerid      READ              READ          YES

INSTALLATION DATA
-----
FIRSTWS=workspace, SHOWEVT=n, SHOWZOS=n, SHOWCICS=n, SHOWCTG=n, SHOWIMS=n, SHOWDB2=n,
SHOWMQ=n, SHOWIIB=n, SHOWMFN=n, SHOWSTOR=n, SHOWJAVA=n

APPLICATION DATA
-----
NONE

AUDITING
-----
FAILURES(READ)

NOTIFY
-----
NO USER TO BE NOTIFIED
```

Where:

- *class* is the name of the RACF security class specified in parameter `RTE_SECURITY_CLASS`.
- *group* is the group name.
- *workspace* is the workspace to display at logon, which is an 8-character panel ID.
- *n* specifies whether the respective tab is displayed in the first workspace. Valid values are Y and N. The variables and corresponding tabs are as follows:

Table 85: OMEGAMON tab options in first workspace	
Option	Tab
SHOWEVT	<b>Events</b> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> Multi-tenancy mode is not supported for the Events tab. The user will see all available resources and will not be restricted to only those resources in the user-defined MSLs for the tenant.</p> </div>
SHOWZOS	<b>z/OS</b>
SHOWCICS	<b>CICS</b>
SHOWCTG	<b>C/TG</b>
SHOWIMS	<b>IMS</b>
SHOWDB2	<b>DB2</b>
SHOWMQ	<b>MQ</b> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The MQ tab displays the queue-sharing group (QSG) information. To include QSG information, you must define an MSL for the QSG managed system type for the customer.</p> </div>
SHOWIIB	n/a <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> There is not a corresponding tab for the Integration Bus (IIB) agent. To view IIB information, use the <b>Integration Bus</b> option on the <b>Navigate</b> menu.</p> </div>
SHOWMFN	<b>MFN</b> (Mainframe Networks)
SHOWSTOR	<b>STOR</b> (Storage)
SHOWJAVA	<b>JVM</b>

- **Users.** Definitions for user IDs are contained within RACF custom data fields, which are contained in a CSDATA segment. For each user ID, the following RACF CSDATA fields are used:
  - OMGROUP. This field has a maximum length of 10 and typically contains an 8-character value like OMEGCICS.
  - OMPOWER. This field has a maximum length of 8. Valid values are YES and NO.
  - OMSUPER. This field has a maximum length of 8. Valid values are YES and NO.
  - OMCUST. This field has a maximum length of 10 and typically contains a 6 to 8-character value like CUSTID.

The following example shows the CSDATA fields for a user:

```
SECURITY-LEVEL=NONE SPECIFIED
CATEGORY-AUTHORIZATION
  NONE SPECIFIED
SECURITY-LABEL=NONE SPECIFIED

CSDATA INFORMATION
-----
OMEG GROUP group
OMEG POWER Y|N
OMEG SUPER Y|N
OMEG CUSTOMER customerID
```

Where:

- *group* is the associated group name, which can be up to 10 characters.
- *customerID* is the associated customer ID, which can be up to 10 characters. This parameter is omitted for super users.

For more information about CSDATA fields, see the *z/OS Security Server RACF Security Administrator's Guide*.

**Note:** To display, add, or modify information in the CSDATA segment, you must have the appropriate authorization. These tasks are typically performed by the RACF administrator. Additionally, the OMEGAMON started task needs to be authorized to issue RACROUTE EXTRACT requests for CSDATA fields for any user ID that logs in to the enhanced 3270 user interface.

Use the following procedure to create the customer, group and user definitions in RACF. Refer to the *z/OS Security Server RACF* documentation for details.

## Procedure

1. Create your customer definitions using RACF General Resource Profiles (Option 2 on the RACF - Services Option Menu).
2. Create your group definitions using RACF General Resource Profiles (Option 2 on the RACF - Services Option Menu).
3. Create your user definitions using RACF User Profiles (Option 4 on the RACF - Services Option Menu).
4. Authorize the OMEGAMON started task to issue RACROUTE EXTRACT requests for CSDATA fields for any user ID that logs in to the enhanced 3270 user interface.

## What to do next

Because tenant definitions can exist in either PDS members or an external security system, you must indicate the location of the tenant definitions that you want to use. For more information, see [“Setting the location of the tenant definitions” on page 1074](#).

## Setting the location of the tenant definitions

Set the location of the tenant definitions.

## Before you begin

Setting the location of the tenant definitions requires the use of override embed members. For more information about using override embed members, see the following topics:

- Using Configuration Manager: [Using override embed members](#)
- Using PARMGEN: [Override embed members](#), [Customizing the override embed members](#)

## About this task

The customer, group, and user definitions for the tenant can exist in either PDS members or an external security system, such as RACF. It is recommended that you test your tenant definitions using PDS members and then, when satisfied, transfer the definitions to an external security system.

You control the location of the tenant definitions to use with the following override embed parameters:

## MULTI\_TENANCY\_DEFS

Specifies the location of the tenant definitions to use. Valid values are as follows:

### PDS

(Default) Definitions are in PDS members located in the data set specified in the DD statement named in the **MULTI\_TENANCY\_DDNAME** parameter.

### SAF

Definitions are made using the System Authorization Facility (SAF) interface for use with an external security system, such as RACF.

## MULTI\_TENANCY\_DDNAME

Specifies the DD name of the data set containing the tenant definitions when defined in PDS members. The default value is RKOBPROF, which uses the UKOBDATF data set.

These parameters are defined in override embed member KOB\$PENV. Following a standard override embed procedure places the parameters into member RKANPARU (KOBENV) for Configuration Manager or WCONFIG (KOBENV) for PARMGEN.

Use the following steps to set the location of the tenant definitions to use.

## Procedure

- Using Configuration Manager:
  - a. Locate your embeds data set. If you do not have an embeds data set, you must enable override embed members for your runtime environment by running a **CREATE** action with **KFJ\_USE\_EMBEDS** set to **Y**. For more information, see [Enable override embed members for an existing RTE](#).
  - b. In the override embed member KOB\$PENV in the embeds data set, specify the location of the tenant definitions as follows:

- To use tenant definitions in PDS members, include the following statement:

```
MULTI_TENANCY_DEFS=PDS
```

You can also use a DD name other than the default value of RKOBPROF by including the following statement:

```
MULTI_TENANCY_DDNAME=<ddname>
```

- To use tenant definitions in an external security system, such as RACF, include the following statement:

```
MULTI_TENANCY_DEFS=SAF
```

- c. Run the **GENERATE** action.

- Using PARMGEN:

- a. Update the override embed member KOB\$PENV, as follows:
  - a. From the **Workflow - Primary Option Menu**, select option 2, **Customize PARMGEN configuration profiles**. The **Customize PARMGEN Configuration Profile Members** (KCIP@PG6) panel is displayed.
  - b. Select **WCONFIG**.
  - c. Select and edit the **KOB\$PENV** member.
  - d. Specify the location of the tenant definitions, as follows:  
To use tenant definitions in PDS members, include the following statement:

```
MULTI_TENANCY_DEFS=PDS
```

You can also use a DD name other than the default value of RKOBPROF for the location of the PDS members by including the following statement:

```
MULTI_TENANCY_DDNAME=<ddname>
```

To use tenant definitions in an external security system, such as RACF, include the following statement:

```
MULTI_TENANCY_DEFS=SAF
```

- e. Save the changes and return to the **Workflow - Primary Options Menu** panel.
- b. Regenerate the runtime members and jobs, as follows:
  - a. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** (KCIP@PR1) panel is displayed.
  - b. Select option 1 to submit the \$PARSE job (or the \$PARSESV job, if variables are enabled).
  - c. Return to the **Workflow - Primary Options Menu** panel.
- c. Copy the runtime members from the work libraries to the production libraries, as follows:
  - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu.  
The **Submit Batch Jobs To Complete PARMGEN Setup** (KCIP@SUB) panel is displayed.
  - b. Optional: Select option 11 and submit the KCIJPCPR job to back up the production libraries.
  - c. Select option 12 and submit the KCIJPW2R job (or the KCIJPW1R job) to copy the work libraries to the production libraries.

## Enabling multi-tenancy mode

Enable multi-tenancy mode in the enhanced 3270 user interface.

### About this task

To operate the enhanced 3270 user interface in multi-tenancy mode, you must enable the feature using the **KOB\_MT\_ENABLE** parameter. By setting the **KOB\_MT\_ENABLE** parameter to Y, the **MULTI** parameter is changed from the default value of N to Y in the job step of the started task JCL for the enhanced 3270 user interface, as shown in the following example:

```
//*  
//E3270UI EXEC PGM=KOBGATW0,  
//      REGION=&RGN,TIME=&TIM,MEMLIMIT=&MEMLIM,  
//      PARM=( 'MODE=&MODE,APPL=&APPL,FOLD=&FOLD,UMAX=&UMAX',  
//      'TIMEOUT=&TIMEOUT',  
//      'MULTI=Y',  
//      'PROD=&PROD,FSCR=&FSCR,OM=&OM' )
```

After you start or restart the address space, the following message in the JES system log indicates that multi-tenancy mode is enabled:

```
OMV020I e3270UI is running in Multi-Tenancy Mode
```

Use the following procedure to enable multi-tenancy mode in the enhanced 3270 user interface.

### Procedure

1. Perform the following steps using either of the following methods:
  - Using PARMGEN:
    - a. Set parameter **KOB\_MT\_ENABLE** to Y.
    - b. Run \$PARSE.
  - Using Configuration Manager:
    - a. Add parameter **KOB\_MT\_ENABLE** set to Y to the RTEDEF (KOB\$PARM) or RTEDEF (KOB\$*lpar*) member. (Create the member if it is not present.)
    - b. Run the **GENERATE** action.

2. Refresh your PROCLIB entries.
3. Start or restart the address space. When the enhanced 3270 user interface address space is up, verify that the following message appears in the JES system log:

```
OMV020I e3270UI is running in Multi-Tenancy Mode
```

## What to do next

Log on to the OMEGAMON enhanced 3270 user interface, running in multi-tenancy mode. See [“Working in multi-tenancy mode” on page 1077](#).

## Working in multi-tenancy mode

Operate your enhanced 3270 user interface in multi-tenancy mode.

After you have completed the necessary configuration steps to operate in multi-tenancy mode, log on to your enhanced 3270 user interface.

**Note:** If you have issues when logging on, see [“Troubleshooting” on page 1078](#).

## Tenant workspaces

Review characteristics of the enhanced 3270 user interface that are unique to operating in multi-tenancy mode.

The following list describes characteristics of the workspace that are unique to operating in multi-tenancy mode:

- **Menus.** The workspace action bar provides a set of menus: File, Edit, View, Tools Navigate, and Help. For a regular user operating in multi-tenancy mode, only a subset of the menu options is enabled. All options are enabled for users defined as power users or super users.
- **Commands.** Regular tenant users have access to only a subset of commands. The `=panelid` command, which is used for out-of-context navigation, is not functional for regular tenant users. All commands are available to power users and super users.
- **Plex ID, Sys ID.** The following characteristics apply for regular tenant users and power users:
  - The Plex ID (NAV1) field is read-only. You cannot switch to a different system outside the scope of your multi-tenancy definition. Instead, you must go back to the home workspace (PF3 or the HOME command) to select a different plex.
  - The Sys ID (NAV2) field is unlocked, or is as set by the individual OMEGAMON product. Many OMEGAMON products use validation of the Plex ID and Sys ID values together to ensure that an overwritten Sys ID value is within the scope of the Plex ID value. This validation is a registry lookup, and if not found an error message is displayed explaining that the combination of the Plex ID value (locked or not) and the Sys ID value is invalid.

These restrictions do not apply for users defined as super users.

- **Icons.** For regular tenant users, icons are disabled. All icons are available to power users and super users.
- **Tabs.** For regular tenant users, only those tabs that have been designated for inclusion are displayed in the workspace. This setting is made in the group definition, which is described in [“Creating tenant definitions” on page 1067](#).
- **Footer.** For regular tenant users and power users, the name of the customer associated with the logged-on user is displayed in the minimize bar. This value is set in the customer definition, which is described in [“Creating tenant definitions” on page 1067](#). For super users, the name of the HUB to which the user is connected is displayed.

The following figure highlights items described in the list:

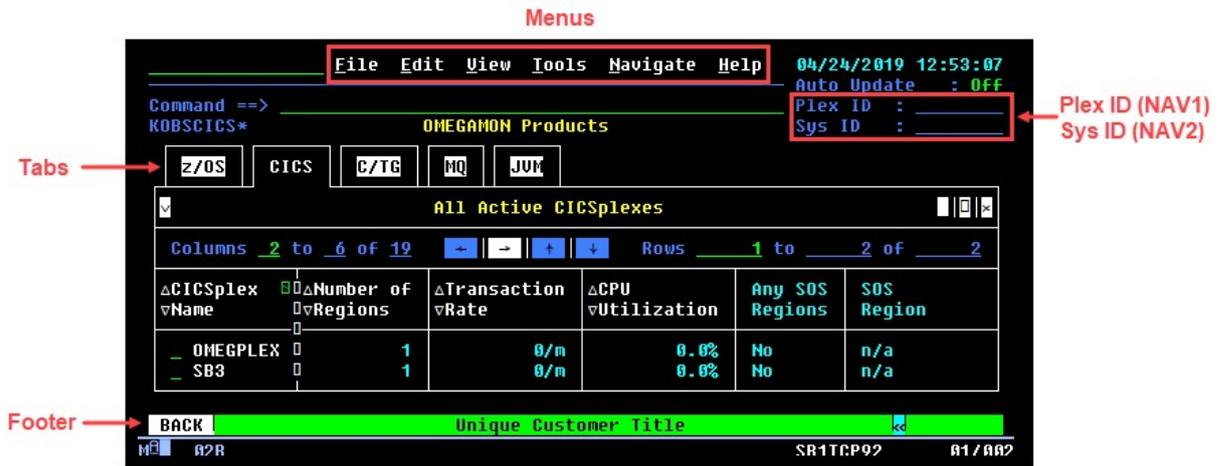


Figure 200: Workspace in multi-tenancy mode

## Troubleshooting

The troubleshooting section provides problem determination and resolution for the issues that are most commonly encountered with the OMEGAMON multi-tenancy feature.

### First workspace does not load

When you log on in multi-tenancy mode, the first workspace does not load.

#### Symptom

The following error message is displayed:

```

First Workspace Error
The Initial workspace KOBLOGON is invalid. It is marked as a silent
workspace, but it did not set the ZDESTID variable. All silent
workspaces must set ZDESTID to enable forward navigation.

You should alter KOBLOGON to include the following statement:

SET ZDESTID=panelid

where panelid is your desired displayable first workspace.

```

#### Explanation

The OMEGAMON multi-tenancy solution uses a silent workspace, KOBLOGON, as the first workspace.

When you log on in multi-tenancy mode, the KOBLOGON workspace is invoked. This workspace retrieves multi-tenancy-related information for the user ID that is logging on, and then calls the first workspace to display, as defined for the group to which the user belongs.

In the silent KOBLOGON workspace, the first workspace to display is specified in the ZDESTID parameter, as shown in the following figure:

```

/*****
/*          NAVIGATE FORWARD TO FIRST WORKSPACE          */
/*****

<SUBPANEL>

<EPILOG>
SET ZDESTID=&FIRSTWS
<EPILOGEND>

<SUBPANELEND>

```

The ZDESTID parameter by default should be set to the value in the FIRSTWS variable.

The FIRSTWS variable is defined in the group definition, which is shown in the following example:

```
GROUP:group, FIRSTWS=workspace,  
SHOWEVT=value, SHOWZOS=value, SHOWCICS=value, SHOWCTG=value, SHOWIMS=value,  
SHOWDB2=value, SHOWMQ=value, SHOWIIB=value, SHOWMFN=value, SHOWSTOR=value, SHOWJAVA=value
```

## Procedure

1. In the KOBLOGON workspace definition, check that the ZDESTID variable is defined correctly.
2. In the group definition in the KOBGROUP member or in RACF, as appropriate for your setup, check that the FIRSTWS variable is set correctly.

## No data condition

When you log on in multi-tenancy mode, the workspace loads but does not display any data.

## Symptom

Multi-tenancy mode has been configured for the OMEGAMON enhanced 3270 user interface. The enhanced 3270 user interface address space has been started and you are able to log on, but your enhanced 3270 user interface is displaying an empty workspace.

## Explanation

As described in [“OMEGAMON multi-tenancy concepts and architecture” on page 1061](#), in a single-tenant configuration, product-provided MSLs are used in the system-generated SQL queries for data collection while in a multi-tenancy configuration, user-defined MSLs are used, limiting the scope of collection to only those resources assigned to the tenant. If the user-defined MSLs are not set up correctly, it is possible that unexpected or no results will display.

To resolve the problem, you can analyze the system-generated SQL using trace. The following examples show how the queries appear in trace for single and multi-tenant configurations.

### Single-tenant configuration

In a single-tenant configuration, a product-provided MSL name is used in the system-generated SQL query. The following example is of a standard trace of the enhanced 3270 user interface in a single-tenant configuration. The user is logging on to the CICS first workspace KOBSCICS. This example shows a typical workspace query that displays the CICS plexes defined to OMEGAMON:

```
KOBUIFD1I SQL1 Query Length : 00284  
..SELECT CICSPLEX, NREGIONS, TRANRATE, CPUUTIL, AN+  
YSOS, CBUFFW, CSTRINGW, ENQWAIT, IORATE, PAGERATE,+  
STGVIOL, AIDS, ICES, HIMAXTP, HIMAXTR, ALLACB, WP+  
ERFINDX, WSERVCLAS, SOSREGION, ORIGINNODE FROM OM+  
CICS.KCPPLX WHERE SYSTEM.PARMA('NODELIST', '*IBM_C+  
ICSpIex',13) ORDER BY CICSPLEX ASC
```

In this example, the query specifies a SYSTEM.PARMA value of NODELIST and "\*IBM\_CICSpIex". "\*IBM\_CICSpIex" is the product-provided MSL for the OMEGAMON for CICS product and will retrieve data from all Managed System Nodes (MSNs) defined within that MSL.

### Multi-tenancy configuration

In multi-tenancy mode, the user-defined MSL name is substituted into the system-generated query. The substitution is reflected in the trace, as shown in the following standard trace excerpt:

```
===== MULTI-TENANCY MODIFY SQL =====  
SYSTEM.PARMA('NODELIST', '*IBM_CICSpIex',13) ORDER+  
SYSTEM.PARMA('NODELIST', '&CICSMSL',nn) ORDER+  
SYSTEM.PARMA('NODELIST', 'T_C5_TENANT_MSL',nn) +  
SYSTEM.PARMA('NODELIST', 'T_C5_TENANT_MSL',15) +  
=====
```

-----

```
KOBUIGD1I SQL1 Query Length : 00291  
SELECT CICSPLEX, NREGIONS, TRANRATE, CPUUTIL, ANYS+  
OS, CBUFFW, CSTRINGW, ENQWAIT, IORATE, PAGERATE, S+  
TGVIOL, AIDS, ICES, HIMAXTP, HIMAXTR, ALLACB, WPER+  
FINDX, WSERVCLAS, SOSREGION, ORIGINNODE FROM OMCI+  
CS.KCPPLX WHERE SYSTEM.PARMA('NODELIST', 'T_C5_TEN+
```

```
ANT_MSL',15          ORDER BY CICSplex ASC <ENDSQL><<+
```

In this example, the multi-tenant customer was defined as having a CICS MSL of "T\_C5\_TENANT\_MSL". The trace shows the step-by-step substitution process and the final SQL that will be sent to the TEMS.

**Note:** Only the OMEGAMON products that generate queries that use the following format are supported in multi-tenancy mode:

```
SYSTEM.PARMA=( 'NODELIST' , "msl" , nn)
```

Where *msl* is the product-provided MSL name and *nn* is the length of the name in characters.

### Procedure

1. Initiate a trace.
2. Locate the following text: MULTI-TENANCY MODIFY SQL
3. Examine the details of the MSL substitution process and correct any errors.

## IBM Z® OMEGAMON® Web UI

IBM Z OMEGAMON Web UI is a browser-based graphical user interface for monitoring and managing z/OS systems using data from OMEGAMON monitoring agents. IBM Z OMEGAMON Web UI requires IBM Z OMEGAMON Data Requester, a Grafana® application plug-in.

IBM Z OMEGAMON Web UI uses Grafana dashboards to provide visualization and analysis of performance data gathered by OMEGAMON monitoring agents. IBM Z OMEGAMON Web UI provides the following key capabilities:

- Web-based monitoring: Provides access to OMEGAMON performance data from any supported web browser.
- Situations management: Allows you to create, view, and manage alert conditions to identify and respond to critical issues.
- Role-based access control: Allows you to secure dashboards and situations through role-specific permissions.
- Customizable dashboards: Allows you to design and share personalized views tailored to specific monitoring needs.
- Integrated architecture: Enables communication between the Tivoli Enterprise Monitoring Server and Grafana using the OMEGAMON Gateway.
- Administrative user interface: Simplifies configuration and automation of monitored environments.
- OMEGAMON Data Requester: Retrieves and filters real-time and historical data.
- Dashboards: Provide real-time and historical visualization of performance metrics of all OMEGAMON monitoring agents.

For more information, including system requirements and installation steps, see [IBM Z OMEGAMON Web UI](#).

**Note:** Starting with Tivoli® Management Services on z/OS® 6.4, IBM Z OMEGAMON Web UI and Grafana are included as components.

## Tivoli Enterprise Monitoring Server REST services

Tivoli Enterprise Monitoring Server (TEMS) REST services provide access to OMEGAMON data using HTTP REST calls.

# Accessing data using Tivoli Enterprise Monitoring Server REST services

You can access OMEGAMON data by using HTTP REST calls.

## TEMS REST services overview

Tivoli Enterprise Monitoring Server (TEMS) REST services provide access to OMEGAMON data using HTTP REST calls. Using the TEMS REST services, you can retrieve real-time and historical data collected by the monitoring agents, the configurations used for collecting the historical data, select managed system information, and information about situations. You can also perform activities such as starting, stopping, creating, editing, and deleting situations; executing or deleting a Take Action; and deleting a history collection configuration.

Version v1 of TEMS REST services provides endpoints using the **GET**, **POST**, **PATCH**, **PUT**, and **DELETE** methods.

Using TEMS REST services, you can integrate OMEGAMON data into your custom applications, including dashboards and automation, or third-party analytical tools (such as Splunk, Elastic, and Grafana).

TEMS REST services are implemented with the OpenAPI Specification 3.0.3.

## Implementation details

Review the following implementation details:

- TEMS REST services are available on the Tivoli Enterprise Monitoring Server on z/OS® only, for both the hub monitoring server and the remote monitoring server.

**Note:** TEMS REST services are not available for monitoring servers on distributed platforms.

- The endpoints are located at the well-known HTTP or HTTPS port for Tivoli® Management Services on z/OS®, as defined at your site. No additional installation or configuration is needed to use TEMS REST services.
- For secure data transmission, TEMS REST services supports HTTPS. It is recommended that you use HTTPS.
- For authorization and authentication, TEMS REST services provides Basic authentication and bearer (token) security methods. For more information, see [“Securing TEMS REST services” on page 1081](#).

**Note:** If you use mixed-case passwords or password phrases (passphrases) for authentication, parameter **RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG** must be set to N.

## Access verification

To verify that you can access the TEMS REST services at your site and that the services are available, you can use the GET /timenow endpoint, which retrieves the TEMS local time and requires no additional parameters, as follows:

```
https://host:port/api/v1/timenow
```

A successful response verifies access.

## Securing TEMS REST services

Enable authentication and authorization for users of TEMS REST services.

TEMS REST services uses the following methods to secure access to OMEGAMON data:

- **Authentication.** Each TEMS REST services request must contain information that identifies the requester as a trusted user.
- **Authorization.** Authorization determines what OMEGAMON data and functions a user has access to.

## TEMS REST services authentication

TEMS REST services provides basic authentication and bearer token security methods for authentication.

Each TEMS REST services request must contain information that identifies the requester as a trusted user; otherwise, the request returns status code 400 (Bad Request) in the response.

TEMS REST services supports two types of authentication:

- [Basic authentication \(username:password\)](#)
- [Bearer token authentication](#)

**Note:** If you use mixed-case passwords or password phrases (passphrases) for authentication, parameter `RTE_SECURITY_FOLD_PASSWORD_FLAG` must be set to N.

### Basic authentication (username:password)

For basic authentication, you provide user credentials in your TEMS REST services request. Typically, the user credentials are a mainframe user ID and a password (or passphrase). TEMS REST services also supports PassTickets and multi-factor authentication (MFA).

To use basic authentication, you must include in the request the Authorization header containing the word Basic, and the username:password string encoded in Base64, as follows:

```
Authorization: Basic credentials
```

where *credentials* is the username:password string encoded in Base64.

If you do not include the Authorization header in the request, the request responds with status code 400 (Bad Request).

The following example shows how you can use basic authentication in a request using a `curl` command:

```
curl -X 'GET' \  
  'https://host:port/api/v1/timenow' \  
  -H 'accept: application/json' \  
  -H 'Authorization: Basic dXN1cm5hbWU6cGFzc3dvcnQ='
```

where `dXN1cm5hbWU6cGFzc3dvcnQ=` is the username:password string encoded in Base64.

**Note:** Implementation of the authorization header varies depending on the REST API tool used for the request.

### Bearer token authentication

TEMS REST services provides the ability to generate a session ID (bearer token) that uniquely identifies a session and can be used for multiple requests during the session. This security method can improve response time and reduce the number of times user credentials are transferred between the client and the monitoring server. The default token expiration time is 86,400 seconds (24 hours).

You can use the GET /token endpoint to generate the bearer token.

To use bearer token authentication in a request, you must include the Authorization header containing the word Bearer and the generated token, as follows:

```
Authorization: Bearer token
```

where *token* is the generated token value.

If you do not include the Authorization header in the request, the request responds with status code 400 (Bad Request).

The following `curl` commands provide an example of how you can generate and use a bearer token:

```
curl -u user:password https://host:port/api/v1/token
```

```
curl -H "Authorization: Bearer token" https://host:port/api/v1/timenow
```

where *token* is the value of the token returned by the `/token` request in the first command.

**Note:** Implementation of the authorization header varies depending on the REST API tool used for the request.

## TEMS REST services authorization

TEMS REST services uses the system authorization facility (SAF) interface for user authorization.

Authorization determines what data and functions a user has access to. To retrieve or manipulate OMEGAMON® data using TEMS REST services, the user must have authorization to access the OMEGAMON data or to perform a specific activity, such as starting or stopping a situation or executing a Take Action. You can control access by defining SAF resource profiles that are unique to TEMS REST services.

The following list provides details about using the SAF interface for authorizing the use of TEMS REST services:

- TEMS REST services uses the SAF interface in a similar manner as the OMEGAMON® enhanced 3270 user interface (enhanced 3270UI). If you use \$KOBSEC as the SAF general resource class for your enhanced 3270UI security, you can use some of the same authorizations that have been defined for the enhanced 3270UI for TEMS REST services. For information about how the enhanced 3270UI implements authorizations, see [“Enable security for the OMEGAMON enhanced 3270 user interface” on page 564](#).
- TEMS REST services requires a SAF general resource class named \$KOBSEC. If resource class \$KOBSEC does not exist, it must be defined. For more information, see [“Define a SAF general resource class for securing access to OMEGAMON resources” on page 566](#).

**Important:** Although TEMS REST services uses the SAF interface in a similar manner as the enhanced 3270UI, the SAF general resource class name is a notable difference. For the enhanced 3270UI, the SAF general resource class name is customizable and specified in parameter `RTE_SECURITY_CLASS`. For TEMS REST services, the class name must be \$KOBSEC.

- TEMS REST services uses parameter `RTE_SECURITY_USER_LOGON` to determine which security system is used for validation. You must set parameter `KDS_TEMS_SECURITY_KDS_VALIDATE` to Y to enable validation.
- You can restrict access to some TEMS REST services by defining SAF resource profiles that are unique to TEMS REST services. For more information, see the following sections about creating SAF profiles for TEMS REST services.

**Note:** TEMS REST services also supports the user ID mapping capability. For more information, see [“Setting up the user ID mapping capability” on page 548](#).

## Define SAF profiles to control access to collection data

Create SAF resource profiles to control access to real-time or historical collection data when using TEMS REST services.

### Before you begin

TEMS REST services endpoint `GET /data` allows you to request collection data. For an example, see [“Requesting collection data” on page 1095](#).

Security for TEMS REST services requires a SAF general resource class named \$KOBSEC. For more information, review [“Securing TEMS REST services” on page 1081](#).

By default, all requests to retrieve collection data are allowed unless SAF profiles are defined that restrict access.

**Note:** If you use \$KOBSEC as the SAF general resource class for your OMEGAMON® enhanced 3270 user interface (enhanced 3270UI) security, the same authorizations that have been defined for query access to data sources in the enhanced 3270UI apply when retrieving collection data using TEMS REST services. The enhanced 3270UI uses the same naming structure for its query profiles as TEMS REST services uses for its collection data profiles (which are described in this topic). For information about the enhanced 3270UI query profiles, see [“Define query profiles to control access to data sources” on page 570](#).

## About this task

The authority to request collection data using TEMS REST services endpoint GET /data is verified by checking for access to a SAF resource named in the following pattern:

```
Kpp.node_name.table_name
```

where

### **Kpp**

Is the product code of the agent instance. For example, for OMEGAMON® for z/OS®, the product code is KM5. See [Product codes](#) for other products.

**Important:** For OMEGAMON® for CICS, you must use value OMCICS instead of the typical product code KCP.

### **node\_name**

Is the name of the node, which is a managed system name. A managed system name typically identifies a unique Tivoli Enterprise Monitoring Server agent instance. Note that the form of managed system names differs from product to product. Check the agent-specific documentation for information about the form used for managed system names.

### **table\_name**

Is the name of the table defined within the product agent.

You must create a SAF profile to match the resource. If a matching SAF profile does not exist to protect a given resource, the request is allowed.

As an example, suppose you want to control the ability to issue a request to an OMEGAMON® for z/OS® agent running on Sysplex IBMTEST on Sysplex member TSTA, for table LPCLUST. You would define a profile named KM5.IBMTEST:TSTA:MVSSYS.LPCLUST by entering the following command, which restricts all access to the resource for all users:

```
RDEFINE $KOBSEC KM5.IBMTEST:TSTA:MVSSYS.LPCLUST UACC(NONE)
```

More generally, you could define the profile using the asterisk (\*) wildcard to restrict all collection data requests for a specific product on a specific node:

```
RDEFINE $KOBSEC KM5.node_name.* UACC(NONE)
```

You can then give access to the profiles for individual users or user groups.

## Procedure

1. For each resource to protect, enter the following commands in RACF:

```
RDEFINE $KOBSEC Kpp.node_name.table_name UACC(NONE)  
SETROPTS RACLIST($KOBSEC) REFRESH
```

These commands restrict access to all users.

2. To permit access to individual users, enter the following command in RACF:

```
PERMIT Kpp.node_name.table_name ID(userid) ACCESS(READ) CLASS($KOBSEC)
```

## Define SAF profiles to control permissions for history collection configurations

Create SAF resource profiles to control permissions for history collection configurations when using TEMS REST services.

### Before you begin

TEMS REST services allows you to retrieve and delete information about history collection configurations. By default, all requests are allowed unless SAF resource profiles that restrict access are defined.

Security for TEMS REST services requires a SAF general resource class named \$KOBSEC. For more information, review [“Securing TEMS REST services” on page 1081](#).

### About this task

A *history collection configuration* defines what historical data is collected for particular attribute groups and provides other collection-related settings.

History collection configurations are stored as internal UADVISOR situations. A UADVISOR situation is a special form of situation that is created for internal product use. The name of a UADVISOR situation is in the format UADVISOR\_XXXXX.

**Note:** For information about securing access to user-defined situations or predefined product-provided situations, see [“Define SAF profiles to control permissions for situations” on page 1086](#).

TEMS REST services verifies the authority to interact with history collection configurations by checking for access to the SAF resources, as follows:

Description of request	Method	Endpoint	Resource pattern	Access required
<a href="#">Retrieve history collection configurations</a>	GET	/data/historycollections	04SRV.HISTORYCOLLECTIONS.uadvisor_name	READ
<a href="#">Delete a history collection configuration</a>	DELETE	/data/historycollections	04SRV.HISTORYCOLLECTIONS.uadvisor_name	ALTER

where:

#### **04SRV**

Is a literal qualifier value. 04SRV is a qualifier for monitoring server tables.

#### **HISTORYCOLLECTIONS**

Is a literal qualifier value. Use this qualifier for controlling permissions to history collection configurations.

#### **uadvisor\_name**

Is the unique name of the history collection configuration in the format UADVISOR\_XXXXX. Commonly, *Kpp* and *tablename* appear in the name.

You must create a SAF profile to match the resource. If a matching SAF profile does not exist to protect a given resource, the request is allowed.

As an example, to control the ability to retrieve a history collection configuration named UADVISOR\_KDP\_ANOMALY for all users, enter the following command:

```
RDEFINE $KOBSEC 04SRV.HISTORYCOLLECTIONS.UADVISOR_KDP_ANOMALY UACC(NONE)
```

More generally, you can define the profile using the asterisk (\*) wildcard to restrict requests for all history collection configurations:

```
RDEFINE $KOBSEC 04SRV.HISTORYCOLLECTIONS.* UACC(NONE)
```

You can then give access to the profiles for individual users or user groups.

**Important:** When enabling security for the OMEGAMON enhanced 3270 user interface, you might define resource profile 04SRV.\*\* with UACC(NONE) to secure near-term history. If this profile exists in your \$KOBSEC resource class, it would overrule the profiles for your history collection configurations using TEMS REST services. If this is the case, define the following profile to allow the use of TEMS REST services to retrieve all history collection configurations before restricting access to specific resources:

```
RDEFINE $KOBSEC 04SRV.HISTORYCOLLECTIONS.* UACC(READ)
```

**Note:** To allow users to delete history collection configurations, you must provide ALTER access.

## Procedure

1. For each history collection configuration to protect, enter the following commands in RACF:

```
RDEFINE $KOBSEC 04SRV.HISTORYCOLLECTIONS.uadvisor_name UACC(NONE)
SETROPTS RACLIST($KOBSEC) REFRESH
```

These commands refuse access to all users.

2. To permit access to individual users, enter the following commands in RACF:

- To permit retrieval of a history collection configuration:

```
PERMIT 04SRV.HISTORYCOLLECTIONS.uadvisor_name ID(userid) ACCESS(READ)
CLASS($KOBSEC)
```

- To permit deleting a history collection configuration:

```
PERMIT 04SRV.HISTORYCOLLECTIONS.uadvisor_name ID(userid) ACCESS(ALTER)
CLASS($KOBSEC)
```

## Define SAF profiles to control permissions for situations

Create SAF resource profiles to control permissions for situations when using TEMS REST services.

### Before you begin

TEMS REST services allows you to interact with user-defined situations and predefined product-provided situations. By default, all requests related to situations are allowed unless SAF resource profiles that restrict access are defined.

Security for TEMS REST services requires a SAF general resource class named \$KOBSEC. For more information, review [“Securing TEMS REST services” on page 1081](#).

**Note:** For information about securing access to history collection configurations (which are stored as UADVISOR situations), see [“Define SAF profiles to control permissions for history collection configurations” on page 1085](#).

### About this task

TEMS REST services verifies the authority to interact with user-defined situations and predefined situations by checking for access to the SAF resources, as follows:

Description of request	Method	Endpoint	Resource pattern	Access required
<a href="#">Retrieve defined situations</a>	GET	/situations	04SRV.SITUATIONS.situation_name	READ

Description of request	Method	Endpoint	Resource pattern	Access required
<a href="#">Edit a situation</a>	PATCH	/situations	04SRV.SITUATIONS. <i>situation_name</i>	UPDATE
<a href="#">Create a situation</a>	PUT	/situations	04SRV.SITUATIONS. <i>situation_name</i>	UPDATE
<a href="#">Delete a situation</a>	DELETE	/situations	04SRV.SITUATIONS. <i>situation_name</i>	ALTER
<a href="#">Retrieve current situation status information</a>	GET	/situations/status	04SRV.SITUATIONS.STATUS. <i>situation_name</i>	READ
<a href="#">Retrieve situation status history</a>	GET	/situations/status/history	04SRV.SITUATIONS.STATUS. <i>situation_name</i>	READ
<a href="#">Start a situation</a>	POST	/situations/start	04SRV.SITUATIONS.STARTSTOP. <i>situation_name</i>	READ
<a href="#">Stop a situation</a>	POST	/situations/stop	04SRV.SITUATIONS.STARTSTOP. <i>situation_name</i>	READ

where:

### **04SRV**

Is a literal qualifier value. 04SRV is a qualifier for monitoring server tables.

### **SITUATIONS**

Is a literal qualifier value. Use this qualifier for controlling permissions to user-defined and product-provided situations.

### **STATUS | STARTSTOP**

Are literal qualifier values. Use STATUS for controlling permissions when retrieving situation status information. Use STARTSTOP for controlling permissions when starting or stopping a situation.

### ***situation\_name***

Is the unique name of the situation or policy.

You must create a SAF profile to match the resource. If a matching SAF profile does not exist to protect a given resource, the request is allowed.

As an example, to control the ability to interact with a user-defined situation named MQ\_Queue\_Depth\_High, you can define the following profiles to restrict all access to the resource for all users:

- To restrict retrieving, editing, creating, and deleting a specific situation:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.MQ_Queue_Depth_High UACC(NONE)
```

- To restrict retrieving the situation status for a specific situation:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STATUS.MQ_Queue_Depth_High UACC(NONE)
```

- To restrict starting and stopping a specific situation:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STARTSTOP.MQ_Queue_Depth_High UACC(NONE)
```

More generally, you can define the profiles using the asterisk (\*) wildcard to restrict interaction with all situations:

- To restrict retrieving, editing, creating, and deleting of all situations:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.* UACC(NONE)
```

- To restrict retrieving the situation status for all situations:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STATUS.* UACC(NONE)
```

- To restrict starting and stopping all situations:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STARTSTOP.* UACC(NONE)
```

- To restrict all interactions with all situations:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.** UACC(NONE)
```

You can then give access to the profiles for individual users or user groups.

**Important:** When enabling security for the OMEGAMON enhanced 3270 user interface, you might define resource profile 04SRV.\*\* with UACC(NONE) to secure near-term history. If this profile exists in your \$KOBSEC resource class, it would overrule the profiles for your situations using TEMS REST services. If this is the case, define the following profiles to allow the use of TEMS REST services to interact with all situations and situation statuses before restricting access to specific resources:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.* UACC(READ)
```

**Note:** To allow users to edit or create situations, you must provide UPDATE access. To allow users to delete situations, you must provide ALTER access.

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STATUS.* UACC(READ)
```

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STARTSTOP.* UACC(READ)
```

## Procedure

1. For each resource to protect, enter the following commands in RACF:

- To restrict retrieving, editing, creating, and deleting a specific situation:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.situation_name UACC(NONE)  
SETROPTS RACLIST($KOBSEC) REFRESH
```

- To restrict retrieving the situation status for a specific situation:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STATUS.situation_name UACC(NONE)  
SETROPTS RACLIST($KOBSEC) REFRESH
```

- To restrict starting and stopping a specific situation:

```
RDEFINE $KOBSEC 04SRV.SITUATIONS.STARTSTOP.situation_name UACC(NONE)  
SETROPTS RACLIST($KOBSEC) REFRESH
```

These commands refuse access to all users.

2. To permit access to individual users, enter the following commands in RACF:

- To permit retrieving a specific situation:

```
PERMIT 04SRV.SITUATIONS.situation_name ID(userid) ACCESS(READ) CLASS($KOBSEC)
```

- To permit editing and creating a specific situation:

```
PERMIT 04SRV.SITUATIONS.situation_name ID(userid) ACCESS(UPDATE) CLASS($KOBSEC)
```

- To permit deleting a specific situation:

```
PERMIT 04SRV.SITUATIONS.situation_name ID(userid) ACCESS(ALTER) CLASS($KOBSEC)
```

- To permit retrieving the situation status for a specific situation:

```
PERMIT 04SRV.SITUATIONS.STATUS.situation_name ID(userid) ACCESS(READ)  
CLASS($KOBSEC)
```

- To permit starting and stopping a specific situation:

```
PERMIT 04SRV.SITUATIONS.STARTSTOP.situation_name ID(userid) ACCESS(READ)
CLASS($KOBSEC)
```

## Define SAF profiles to control Take Action permissions

Create SAF resource profiles to control Take Action permissions when using TEMS REST services.

### Before you begin

TEMS REST services allows you to interact with Take Action command definitions. By default, all requests to interact with Take Action commands are allowed unless SAF profiles that restrict access are defined.

Security for TEMS REST services requires a SAF general resource class named \$KOBSEC. For more information, review [“Securing TEMS REST services” on page 1081](#).

### About this task

TEMS REST services verifies the authority to interact with Take Action command definitions by checking for access to the SAF resources, as follows:

*Table 88: TEMS REST services endpoints and SAF resources for Take Action command definitions*

Description of request	Method	Endpoint	Resource pattern	Access required
<a href="#">Retrieve Take Action command definitions</a>	GET	/system/actions	04SRV.ACTIONS.Kpp.name	READ
<a href="#">Edit Take Action command definitions</a>	PATCH	/system/actions	04SRV.ACTIONS.Kpp.name	UPDATE
<a href="#">Create Take Action command definitions</a>	PUT	/system/actions	04SRV.ACTIONS.Kpp.name	UPDATE
<a href="#">Delete Take Action command definitions</a>	DELETE	/system/actions	04SRV.ACTIONS.Kpp.name	ALTER
<a href="#">Execute a Take Action</a>	POST	/system/actions/execute	04SRV.ACTIONS.EXECUTE.Kpp.name	READ

where:

#### **04SRV**

Is a literal. 04SRV is a qualifier for monitoring server tables.

#### **ACTIONS**

Is a literal. Use ACTIONS for controlling permissions to interact with Take Action definitions.

#### **EXECUTE**

Is a literal qualifier value. Use EXECUTE for controlling permissions when executing a Take Action.

#### **Kpp**

Is the product code of the agent instance, or KCN for user-defined Take Action commands. For example, for OMEGAMON® for z/OS®, the product code is KM5. See [Product codes](#) for other products.

**Note:** CN is a product code for OMNIMON Base (which includes the OMEGAMON® enhanced 3270 user interface and OMEGAMON Subsystem). This code is also used for user-defined Take Action commands and might be present (if applicable) in the NAME field of a GET /system/actions response.

*name*



```
RDEFINE $KOBSEC 04SRV.ACTIONS.** UACC(UPDATE)
```

- To restrict executing this Take Action:

```
RDEFINE $KOBSEC 04SRV.ACTIONS.EXECUTE.KCN.CNP_1211927952798 UACC(NONE)
```

More generally, you could define the profile using the asterisk (\*) wildcard to refuse permission to execute any Take Action:

```
RDEFINE $KOBSEC 04SRV.ACTIONS.EXECUTE.** UACC(NONE)
```

**Important:** If you [enable security for the OMEGAMON enhanced 3270 user interface](#) using SAF profiles in the \$KOBSEC resource class, consider the following cases:

- You might define resource profile 04SRV.\*\* with UACC(NONE) to secure near-term history in the enhanced 3270UI. If this profile exists in your \$KOBSEC resource class, it would overrule the profiles for accessing your Take Action command definitions using TEMS REST services. If this is the case, define the following profiles to allow the use of TEMS REST services to interact with all Take Action command definitions before restricting access to specific resources:

```
RDEFINE $KOBSEC 04SRV.ACTIONS.** UACC(ALTER)
```

```
RDEFINE $KOBSEC 04SRV.ACTIONS.EXECUTE.** UACC(READ)
```

- If you use resource profile *Kpp.msn*.TAKEACTION to secure the use of Take Action commands in the enhanced 3270UI, this profile also applies when executing a Take Action in TEMS REST services.

## Procedure

1. For each resource to protect, enter the following commands in RACF:

- To restrict retrieving, editing, and deleting a Take Action command definition:

```
RDEFINE $KOBSEC 04SRV.ACTIONS.Kpp.name UACC(NONE)  
SETROPTS RACLIST($KOBSEC) REFRESH
```

**Note:** To restrict editing and deleting but allow retrieving a Take Action command definition, use access READ.

- To restrict executing a Take Action:

```
RDEFINE $KOBSEC 04SRV.ACTIONS.EXECUTE.Kpp.name UACC(NONE)  
SETROPTS RACLIST($KOBSEC) REFRESH
```

These commands refuse access to all users.

2. To permit access to individual users, enter the following commands in RACF:

- To permit retrieving a Take Action command definition:

```
PERMIT 04SRV.ACTIONS.Kpp.name ID(userid) ACCESS(READ) CLASS($KOBSEC)
```

- To permit editing a Take Action command definition:

```
PERMIT 04SRV.ACTIONS.Kpp.name ID(userid) ACCESS(UPDATE) CLASS($KOBSEC)
```

- To permit creating a Take Action command definition:

```
PERMIT 04SRV.ACTIONS.Kpp.name ID(userid) ACCESS(UPDATE) CLASS($KOBSEC)
```

- To permit deleting a Take Action command definition:

```
PERMIT 04SRV.ACTIONS.Kpp.name ID(userid) ACCESS(ALTER) CLASS($KOBSEC)
```

- To permit executing a Take Action:

```
PERMIT 04SRV.ACTIONS.EXECUTE.Kpp.name ID(userid) ACCESS(READ) CLASS($KOBSEC)
```

## Accessing TEMS REST services OpenAPI document

Access all available request paths, parameters, and responses in the OpenAPI document.

To access the OpenAPI document for the Tivoli Enterprise Monitoring Server (TEMS) REST services, you can use the GET `/spec` endpoint.

```
https://host:port/api/v1/spec
```

The response is the OpenAPI document in YAML format, which provides all the possible HTTP requests, including request paths, associated query parameters, and possible responses.

## How to specify requests to the TEMS REST services

Get started with the TEMS REST services.

Callers interact with the Tivoli Enterprise Monitoring Server (TEMS) REST services by using HTTP REST calls. Possible callers are command-line based (such as `curl`), web browser applications, front-end applications, or programmatic callers created using the OpenAPI Generator. The base path for the TEMS REST services is as follows:

```
https://host:port/api/version
```

Where `port` is the well-known HTTP or HTTPS port for Tivoli® Management Services on z/OS®, as defined at your site.

Version v1 of TEMS REST services provides the following types of endpoints:

- **GET** endpoints that allow read-only access to the OMEGAMON data. You can access the following types of information using available endpoints:
    - Collection data: real-time data, and near-term history from the persistent data store
- Note:** TEMS REST services does not support retrieving data from the Tivoli Data Warehouse.
- History collection configurations, which define what historical data is collected
  - Managed system data: applications, groups, nodes, tables, self-describing agent records, and Take Action command definitions. Paths for managed system data endpoints include `/system` in the address.
  - Situation definitions and statuses
  - **POST** endpoints that allow you to perform an activity. You can perform the following activities using available endpoints:
    - Start and stop a situation
    - Execute a Take Action
  - **PATCH** endpoint that allows you to edit situations and Take Action definitions
  - **PUT** endpoint that allows you to create situations and Take Action definitions
  - **DELETE** endpoints that allow you to delete situations, Take Action definitions, and history collection configurations

All available request paths and responses can be found in the [OpenAPI document](#).

## TEMS REST services terminology

An understanding of the following terms and how they relate to OMEGAMON and the monitoring server will help expedite your getting starting with the TEMS REST services.

### application

The application is the agent product code.

### affinity

The agent affinity is a Tivoli Monitoring internal identifier that associates workspaces, queries, and other items, with the agent. It must be unique in the Tivoli Monitoring installation.

### group

A defined set of resources (nodes) that is used to control the scope of data collection.

### node

A unique token used for agent identification, which is used in data collection to identify one agent monitoring one system or subsystem.

### table

A data structure consisting of rows and columns that is used by the monitoring server and monitoring agents to store collection data.

## Using time values for requests

You can use time values when making requests for collection data or situation statuses:

### Collection data

When requesting collection data using the GET /data endpoint, two types of collection data are available: real-time data, and near-term history from the persistent data store. To request near-term historical data, you must specify time values as part of the GET /data request. If you do not specify time values, the request returns real-time data.

For the GET /data endpoint, the time values are specified using the parameters **timeFrom** and **timeTill**. When requesting historical data, a start and end time must be provided for the request. If you specify the **timeFrom** parameter alone, then the **timeTill** parameter defaults to the current time. If you specify a value for the **timeTill** parameter, then you must also specify a value for the **timeFrom** parameter.

### Situation status history

When requesting situation status history using the GET /situations/status/history endpoint, you must specify a start time from when to retrieve situation status history using the **timeFrom** parameter. You can also specify an end time using the **timeTill** parameter.

The format for the time values consists of 16 digits as follows: `YYMMDDHHMMSS000`

Where:

- `YYY` is the number of years since the year 1900.
- `MMDDHHMMSS` is months, days, hours, minutes, and seconds, respectively.
- The last three digits are zeros.

For example, 2023 July 17, 06:34:37 would be represented as follows: `1230717063437000`

You can use the GET /timenow endpoint to retrieve the TEMS local time. The response returns the time value in the required format for use in the **timeFrom** and **timeTill** parameters.

### Request:

```
https://host:port/api/v1/timenow
```

### Response:

```
{
  "timenow": "1230717063437000"
}
```

## Requesting a session token

This example shows how to generate a session ID (bearer token).

Generate a unique session ID using the GET `/token` endpoint. This operation authenticates the session and creates a token that can be used on subsequent requests, improving the response time and reducing the number of times the user credentials are transferred between the client and the monitoring server.

```
https://host:port/api/v1/token
```

The response is a JSON document that returns information about the token using the SSSToken schema. You can use the token on subsequent requests.

## Requesting managed system data

This example shows how to request managed system data, which includes information about applications, groups, nodes, tables, self-describing agent (SDA) records, and Take Action command definitions.

Paths for managed system data endpoints include `/system` in the address.

When requesting managed system data, you can request information about all items, or you can use parameters to filter the results. The parameters that are available vary by endpoint and include **name**, affinity ID (**id**) and **product**.

1. You can use the following paths to request all applications, groups, nodes, SDA records, or Take Action definitions respectively:

```
https://host:port/api/v1/system/applications
```

```
https://host:port/api/v1/system/groups
```

```
https://host:port/api/v1/system/nodes
```

```
https://host:port/api/v1/system/sda
```

```
https://host:port/api/v1/system/actions
```

**Note:** Requesting all tables using the GET `/system/tables` endpoint is not supported.

2. Using information returned in the responses from the previous requests, you can then refine each request to be more specific, as shown in the following examples:

```
https://host:port/api/v1/system/applications?name=name&id=affinity_id
```

```
https://host:port/api/v1/system/groups?name=name&id=affinity_id
```

```
https://host:port/api/v1/system/nodes?name=name&id=affinity_id
```

```
https://host:port/api/v1/system/tables?name=name
```

```
https://host:port/api/v1/system/sda?node=node&product=product
```

```
https://host:port/api/v1/system/actions?name=name&id=affinity_id
```

**Note:** The **name** parameter is required for the GET /system/tables endpoint.

The response for each of these endpoints is a JSON document that contains an array of objects that represent the records returned. Using the returned data, you can refine your requests for retrieving collection data, as shown in [“Requesting collection data” on page 1095](#).

## History collection data requests

Using TEMS REST services, you can retrieve history collection data. You can also retrieve and delete the history collection configurations used for collecting the data.

## Requesting collection data

This example shows how to request collection data using the GET /data endpoint and how to interpret the response.

### Requesting data

When requesting collection data using the GET /data endpoint, you can filter the response using available query parameters.

Parameters **application**, **table**, and **cols** are required with each request, and either the **nodes** or **groups** parameter must also be specified.

Additionally, you can specify the time value parameters **timeFrom** and **timeTill**. The specification of these time value parameters indicates the request is for historical data, not real-time data. For more information about using the time value parameters, see [“Using time values for requests” on page 1093](#).

The following example includes some of the available query parameters; other optional parameters are also available.

**Note:** The examples show each parameter on a new line for better visibility.

```
https://host:port/api/v1/data
?application=application
&table=table
&cols=column_1,column_2,column_n
&nodes=nodes
&timeFrom=YYYYMMDDHHMMSS
&timeTill=YYYYMMDDHHMMSS
```

To request historical data, include the **timeFrom** and **timeTill** parameters in the request, as shown in the following example:

```
https://host:port/api/v1/data
?application=KM5
&table=ASCPUTIL
&cols=JOBNAME,JESJOBID,CPUPCT
&nodes=RSPLEXL4:RSD3:MVSSYS
&timeFrom=1230615073300000
&timeTill=1230615073540000
```

To request real-time data, do not include the time value parameters, as shown in the following example:

```
https://host:port/api/v1/data
?application=KM5
&table=ASCPUTIL
&cols=JOBNAME,JESJOBID,CPUPCT
&nodes=RSPLEXL4:RSD3:MVSSYS
```

**Tip:** You can use an asterisk (\*) for the `cols` parameter to select all columns.

## Interpreting the response

The response to a GET `/data` request is a JSON document that contains an array of objects that represent the records returned, as shown in the following example:

```
[
  {
    "JOBNAME": "CXPLEXL4",
    "JESJOBID": "STC05528",
    "CPUPCT": 70
  },
  {
    "JOBNAME": "RMFGAT",
    "JESJOBID": "STC06480",
    "CPUPCT": 9
  }
]
```

In this example, the response returns the requested columns in each record: JOBNAME, JESJOBID, CPUPCT.

For some columns, the meaning of the returned value is not intuitive, such as the value for column CPUPCT in this example. To interpret the value, you can look up the description of the column using the GET `/system/tables` endpoint. For this example, enter the following request:

```
https://host:port/api/v1/system/tables?name=ASCPUUTIL
```

The response includes all columns in the table. For this example, the response returns the properties for all columns in table ASCPUUTIL, which includes the CPUPCT column, as follows:

```
{
  "NAME": "CPUPCT",
  "ATTRNAME": "CPU_Percent",
  "ATOMIZE": false,
  "VERSION": 1,
  "TYPE": "integer"
  "SCALE": 1
  "PRECISION": 4
},
```

Columns that are defined as integers include the following properties to describe the value:

- SCALE is the number of digits to the right of the decimal point in the number
- PRECISION is the maximum number of digits in the number

By applying these properties, you can convert the returned values to meaningful, formatted data.

For example, applying a scale of 1 and a precision of 4 (as defined in the properties for column CPUPCT), translates the raw values to the following meaningful data:

- `"CPUPCT": 70`

represents 7.0, or 7% of CPU use

- `"CPUPCT": 9`

represents .9, or 0.9% of CPU use

## Retrieving history collection configurations

This example shows how to request history collection configurations.

A *history collection configuration* defines what historical data is collected for individual attribute groups and specifies from which managed systems to collect, how frequently to collect the data, where to store it for the

short-term, and whether to save data long-term to a data warehouse. History collection configurations determine what historical data is returned using the GET /data endpoint.

**Note:** In the Tivoli Enterprise Portal, you use the History Collection Configuration window to access history collection configuration definitions.

**Note:** History collection configurations are stored as internal UADVISOR situations. A UADVISOR situation is a special form of situation that is created for internal product use and is not visible in the Tivoli Enterprise Portal. The name of a UADVISOR situation is in the format UADVISOR\_XXXXX. Commonly, *Kpp* and *tablename* appear in the name.

To request a list of history collection configurations or information for a single history collection configuration, use the GET /data/historycollections endpoint, as follows:

- Use the following path to request a list of all history collection configurations:

```
https://host:port/api/v1/data/historycollections
```

- Use the following path to request data collected for a specific history collection configuration by including the **name** parameter set to the UADVISOR situation name:

```
https://host:port/api/v1/data/historycollections?name=uadvisor_name
```

where *uadvisor\_name* is the unique name of the history collection configuration in the format UADVISOR\_XXXXX. Commonly, *Kpp* and *tablename* appear in the name.

- Use the **id** parameter to return history collection configurations by affinity:

```
https://host:port/api/v1/data/historycollections?id=affinity_id
```

## Deleting a history collection configuration

This example describes how to use the DELETE /data/historycollections endpoint to delete a history collection configuration.

A *history collection configuration* defines what historical data is collected for individual attribute groups and specifies from which managed systems to collect, how frequently to collect the data, where to store it for the short-term, and whether to save data long-term to a data warehouse. History collection configurations determine what historical data is returned using the GET /data endpoint.

**Note:** In the Tivoli Enterprise Portal, you use the History Collection Configuration window to access history collection configuration definitions.

**Note:** History collection configurations are stored as internal UADVISOR situations. A UADVISOR situation is a special form of situation that is created for internal product use and is not visible in the Tivoli Enterprise Portal. The name of a UADVISOR situation is in the format UADVISOR\_XXXXX. Commonly, *Kpp* and *tablename* appear in the name.

The format of the path is as follows:

```
https://host:port/api/v1/data/historycollections?  
name=uadvisor_name&lstdate=YYYYMMDDHHMMSS000
```

Where:

- *uadvisor\_name* is the unique name of the history collection configuration in the format UADVISOR\_XXXXX. Commonly, *Kpp* and *tablename* appear in the name.

- `YYMMDDHHMMSS000` is the timestamp when the history collection configuration was last modified.

**Note:** This timestamp value is used as a locking mechanism to prevent multiple requests aimed at the same history collection configuration. For information about the format of the timestamp, see [“Using time values for requests” on page 1093](#).

**Tip:** You can obtain this value by using the GET `/data/historycollections` endpoint; the `lstdate` parameter is returned as part of the response.

## Situation requests

You can use TEMS REST services to interact with situations.

### Retrieving defined situations

This example shows how to request information about defined situations for event monitoring.

Use the GET `/situations` endpoint to request a list of defined situations or information for a single situation, as follows:

- Use the following path to request all defined situations:

```
https://host:port/api/v1/situations
```

- Use the following path to request information for a specific situation, by including the `name` parameter set to the unique identifier given to the situation or policy:

```
https://host:port/api/v1/situations?name=situation_name
```

- Use the `id` parameter to return situations by affinity:

```
https://host:port/api/v1/situations?id=affinity_id
```

### Editing situations

This example describes how to use the PATCH `/situations` endpoint to edit situations.

When using this endpoint, you must provide a request body that specifies the following information for each situation to update:

- The name of the defined situation (the **NAME** property).
- The date when the situation was last modified (the **LSTDATE** property). Specify this information as a timestamp value. Because this value is updated each time the situation is edited, you must update the value with each PATCH `/situations` request.

**Note:** This timestamp value is used as a locking mechanism to prevent multiple requests from updating the situation at the same time. For information about the format of the timestamp, see [“Using time values for requests” on page 1093](#).

**Tip:** You can obtain this value by using the GET `/situations` endpoint; the `lstdate` parameter is returned as part of the response.

- The situation information to modify. The properties that can be updated are described in [“Request body for situation editing” on page 1099](#).

The format of the request slightly differs depending on if you are editing a single situation or multiple situations in your request, as described in the following sections.

### Editing one situation per request

When using the PATCH /situations endpoint to edit a single situation, include in the request body the **NAME** property, the **LSTDATE** property, and the situation information to modify.

The format of the path is as follows:

```
https://host:port/api/v1/situations
```

The properties that can be updated are described in [“Request body for situation editing” on page 1099](#).

### Editing multiple situations in a request

When using the PATCH /situations endpoint to edit multiple situations in a single request, you must use the **NAME** and **LSTDATE** properties in the request body for each situation to update.

The format of the path is as follows:

```
https://host:port/api/v1/situations
```

Include in the request body the information to modify for each situation, specified as a separate object for each situation. For example:

```
[
  {
    "NAME" : "sit1",
    "REEV_DAYS": "1",
    "LSTDATE" : "01293012930293"
  },
  {
    "NAME" : "sit2",
    "REEV_DAYS": "1",
    "LSTDATE" : "01293012930293"
  }
]
```

The properties that can be updated are described in [“Request body for situation editing” on page 1099](#).

### Request body for situation editing

The following example shows the format of the request body for situation editing requests and includes all supported properties:

```
{
  "NAME": "string",
  "LSTDATE": "string",
  "ADVISE": "string",
  "AUTOSTART": "string",
  "CMD": "string",
  "FULLNAME": "string",
  "PDT": "string",
  "REEV_DAYS": "string",
  "REEV_TIME": "string",
  "SITINFO": {
    "TFWD": "string",
    "SEV": "string",
    "TDST": "string",
    "ATOM": "string",
    "COUNT": "string"
  },
  "TEXT": "string",
  "REFLEXACTION_OPTIONS": {
    "EACH_ROW": "string",
    "EACH_INTERVAL": "string",
    "WHERE": "string"
  },
  "DISTRIBUTION": [
    "string"
  ]
}
```

Always include in the request body the **NAME** and the **LSTDATE** properties. For the remainder of the properties, include only those properties that you want to update for the respective situation.

The following table describes the supported properties and provides the relevant location in the Tivoli Enterprise Portal (TEP).

<i>Table 89: Request body properties for situation editing</i>		
<b>Property</b>	<b>Description</b>	<b>Location in TEP Situation Editor</b>
NAME	<p>The name of the defined situation. The <b>NAME</b> value is 31 characters or less, does not start with a number, and contains only alphanumeric characters or the underscore character.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> This parameter is required.</p> </div>	Formula tab, <b>Name</b> field
LSTDATE	<p>The timestamp when the situation was last modified. Because this value is updated each time the situation is edited, you must update the value with each PATCH /situations request.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> This parameter is required.</p> </div>	
FULLNAME	<p>The <i>name</i> value of the defined situation when the value does not meet the <b>NAME</b> criteria. The name of the defined situation is stored as the <b>FULLNAME</b> attribute if it is longer than 31 characters, starts with a number, or contains symbols other than alphanumeric or the underscore character (for example, whitespace characters, question mark, exclamation mark).</p>	Formula tab, <b>Name</b> field
TEXT	<p>Situation description. Valid values: character string, max length 64 bytes</p>	Formula tab, <b>Description</b> field

Property	Description	Location in TEP Situation Editor
PDT	<p>Formula containing the thresholds to be tested by the situation. Valid values: character string, max length 1022 characters</p> <p>PDT examples for the supported situation types:</p> <ul style="list-style-type: none"> <li>Standard situation: <pre>"PDT": "*IF *VALUE ALL_THREADS.Plan *EQ K06PLAN *AND *VALUE ALL_THREADS.Plan *EQ K07PLAN"</pre> </li> <li>Correlated situation: <pre>PDT": "*IF *VALUE *HSITNAME *EQ SituationToMonitor *AND *VALUE *HNODE *EQ PLEXA:SYSTEM1:MVSSYS *AND *VALUE *HDELTASTAT *EQ Y *AND *VALUE *HSITNAME *EQ SituationToMonitor2 *AND *VALUE *HNODE *EQ PLEXA:SYSTEM2:MVSSYS *AND *VALUE *HDELTASTAT *EQ Y"</pre> <div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> To be valid, PDT must contain at least two existing situations. The statement <code>*HDELTASTAT *EQ Y</code> means that the situation is 'true'. Thus, Y is the only valid <code>*HDELTASTAT</code> value.</p> </div> </li> <li>Embedded situation: <pre>"PDT": "*IF *SIT SituationToMonitor *EQ *TRUE *AND *VALUE TableA.ColumnE *GT 90.0"</pre> <div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> To be valid, PDT must contain at least one existing situation and at least one other clause, which can be another existing situation or an attribute comparison. When including multiple situations, ensure the situations are from the same agent or All Managed Systems.</p> </div> </li> </ul>	Formula tab, Formula fields

Property	Description	Location in TEP Situation Editor
SITINFO	<p>Situation definitions that are eligible for editing. The SITINFO object includes various properties in JSON object format, as follows:</p> <pre>"SITINFO": {   "TFWD": "string",   "SEV": "string",   "TDST": "string",   "ATOM": "string",   "COUNT": "string" }</pre> <p>When making updates to these properties, you must include all the SITINFO properties that are defined for the situation. You can obtain the SITINFO definitions by using the GET / situations endpoint. For example, consider a situation with the following definitions:</p> <pre>"SITINFO": {   "SEV": "Harmless",   "TDST": "0",   "COUNT": "1" }</pre> <p>To change the value of the COUNT property from 1 to 2, you must include all of the defined properties, as follows:</p> <pre>"SITINFO": {   "SEV": "Harmless",   "TDST": "0",   "COUNT": "2" }</pre> <p>For a description of each of the SITINFO properties, see <a href="#">"SITINFO properties" on page 1105</a>.</p>	Formula and EIF tabs
REEV_DAYS REEV_TIME	<p>Sampling interval. You can change it to as seldom as once in 999 days or as often as 30 seconds.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>• For <b>REEV_DAYS</b>, in <i>ddd</i> format, specify 0 - 999 days.</li> <li>• For <b>REEV_TIME</b>, in <i>hhmmss</i> format, you can specify a minimum value of 30 seconds (000030) and a maximum value of 23 hours, 59 minutes, and 59 seconds (235959).</li> </ul> <p>For example, the following definitions create a sampling interval of 24 hours and 5 minutes:</p> <pre>"REEV_DAYS": "1", "REEV_TIME": "000500"</pre>	Formula tab, Sampling interval fields

Property	Description	Location in TEP Situation Editor
AUTOSTART	<p>Run at startup. Valid values: *YES, *NO</p> <p>Specify *YES if you want monitoring to start as soon as the situation is saved. If a monitoring agent to which the situation is distributed goes offline, the situation will start automatically when the agent starts again.</p> <p>Specify *NO if you want to start the situation manually.</p>	Formula tab, Run at startup option
DISTRIBUTION	<p>Managed systems where to run the situation. Use the following format:</p> <pre>"DISTRIBUTION": ["node_1", "node_2"]</pre> <p>where <i>node_n</i> is one or more nodes (managed systems), listed in JSON array format, where to run the situation.</p> <p>For example:</p> <pre>"DISTRIBUTION": [   "*MVS_DB2",   "DB2plex:DB2plex:Plexview",   "TDB2:SYS1:DB2" ]</pre> <p>When making updates to the DISTRIBUTION values, you must include in the request all the node values that are currently defined for the situation. You can obtain the defined values using the GET /situations endpoint. If you omit an entry, the node is removed from distribution. You can also add nodes to distribution.</p> <div style="border: 1px solid orange; padding: 10px;"> <p><b>Important:</b></p> <ul style="list-style-type: none"> <li>For all situation types, including an empty array in your request removes all definitions.</li> <li>For correlated situations, the only valid DISTRIBUTION value is *HUB. <pre>"DISTRIBUTION": [   "*HUB" ]</pre> </li> <li>For embedded situations, both the embedding situation and the embedded situation must have at least one matching DISTRIBUTION value, otherwise the request is invalid.</li> </ul> </div>	Distribution tab, Assigned field
ADVISE	Expert advice. You can enter text that describes instructions for the user, or provide the URL of a page to display.	Expert Advice tab, Text or Advice Location field

Property	Description	Location in TEP Situation Editor
CMD	<p>Action to perform when the situation becomes true.</p> <p>To run a system command, use the following format:</p> <pre>"CMD": "system_command"</pre> <p>where <i>system_command</i> is the command to issue at the system.</p> <p>To issue a universal message, use the following format:</p> <pre>"CMD" : "message:category;severity; universal_msg"</pre> <p>where:</p> <ul style="list-style-type: none"> <li>• <i>message</i> is a literal value</li> <li>• <i>category</i> is a one-word term of up to 16 characters</li> <li>• <i>severity</i> is a one-word term of up to 8 characters</li> <li>• <i>universal_msg</i> is the text (up to 245 characters) to display when the situation occurs.</li> </ul>	<p>On the <b>Action</b> tab:</p> <ul style="list-style-type: none"> <li>• For system commands: the <b>System Command Selection</b>, and the <b>System Command</b> field.</li> <li>• For universal messages: the <b>Universal Message Selection</b>, and the <b>Category, Severity, and Message</b> fields.</li> </ul>

Property	Description	Location in TEP Situation Editor
REFLEXACTION_OPTIONS	<p>Indicate the reflex action options to take when the situation becomes true. The REFLEXACTION_OPTIONS object includes the following properties in JSON object format:</p> <pre>"REFLEXACTION_OPTIONS": {   "EACH_ROW" : "Y N",   "EACH_INTERVAL" : "Y N",   "WHERE" : "TEMS TEMA" }</pre> <p><b>EACH_ROW</b> If the condition is true for more than one monitored item, specify Y to take action on each item, or specify N to only take action on the first item. The default value is N.</p> <p><b>EACH_INTERVAL</b> If the condition stays true over multiple intervals, specify Y to take action in each interval, or specify N to not take action twice in a row. The default value is N.</p> <p><b>WHERE</b> When the action is executed, specify TEMS to perform the action at the Managing System (TEMS), or specify TEMA to perform the action at the Managed System (agent). The default value is TEMA.</p> <p>When making updates to the REFLEXACTION_OPTIONS properties, if a property and its value are not specified, the default value is used.</p>	<p>Options on the <b>Action</b> tab: If the condition is true for more than one monitored item:</p> <ul style="list-style-type: none"> <li>Only take action on first item</li> <li>Take action on each item</li> </ul> <p>Where should the Action be executed:</p> <ul style="list-style-type: none"> <li>Execute the Action at the Managed System (Agent)</li> <li>Execute the Action at the Managing System (TEMS)</li> </ul> <p>If the condition stays true over multiple intervals:</p> <ul style="list-style-type: none"> <li>Don't take action twice in a row (wait until situation goes false then true again)</li> <li>Take action in each interval</li> </ul>

The following table describes the situation information properties that are defined in the SITINFO object:

<i>Table 90: SITINFO properties</i>		
Property	Description	Location in TEP Situation Editor
TFWD	<p>Event Integration Facility (EIF) forwarding, which forwards situation events to one or more EIF receivers. Specify Y to forward situation events to one or more EIF receivers. An EIF event is sent for each situation event.</p> <p>Valid values: Y, N</p>	<b>EIF</b> tab, <b>Forward Events to an EIF Receiver</b> option
SEV	The severity for forwarded situation events.	<b>EIF</b> tab, <b>EIF Severity</b> field

Property	Description	Location in TEP Situation Editor
TDST	<p>Event Integration Facility (EIF) destinations for the forwarded events. Each destination represents one or more EIF receivers. Use the following format:</p> <pre>"TDST": ["destination_1","destination_2"]</pre> <p>where <i>destination_n</i> is one or more destinations, listed in JSON array format, to which forwarded events will be sent.</p>	EIF tab, <b>Assigned EIF Receivers</b> field
ATOM	<p>For multiple-row attribute groups, you can enable the situation to continue to test all rows in the data sampling and open events. Only columns from tables that are specified in the main formula and are eligible for ATOMIZE are processed.</p> <p>For example, the following definition indicates that only the columns from table REALTHDA that are eligible for ATOMIZE are processed:</p> <pre>"ATOM": "REALTHDA.TDIDPLAN"</pre> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Tip:</b> You can use the GET <code>/system/tables?name=REALTHDA</code> endpoint to identify columns that are eligible for ATOMIZE, as indicated by "ATOMIZE" : <code>true</code>.</p> </div>	On <b>Formula</b> tab, select <b>Advanced</b> settings. On <b>Advanced Situation Options</b> window, <b>Display Item</b> tab, <b>Item</b> field.
COUNT	<p>Consecutive true samples, which is the number of times the situation remains true before an event is opened. Use the following format:</p> <pre>"COUNT": "number"</pre> <p>where <i>number</i> is an integer.</p>	On <b>Formula</b> tab, select <b>Advanced</b> settings. On <b>Advanced Situation Options</b> window, <b>Situation Persistence</b> tab, <b>Consecutive true samples</b> field.

## Creating situations

This example describes how to use the PUT `/situations` endpoint to create situations.

When using this endpoint, you must provide the following information in the request body:

- The situation name. Specify a unique name to create a new situation. For more information about the situation name, see [“Situation name” on page 1107](#).
- The **PDT** property specifying the formula for the situation.

You can also specify other optional properties. For more information about the request body properties, see [“Request body for creating situations” on page 1108](#).

The format of the request slightly differs depending on if you are [creating a single situation](#) or [multiple situations](#) in your request, as described in the following sections.

With the PUT `/situations` endpoint, you can also import multiple existing situations from one runtime environment into a different runtime environment. Thus, you can recreate multiple situations in a new runtime

environment in a single request. For more information about importing situations, see [“Importing multiple situations” on page 1115](#).

### Creating one situation per request

When using the PUT /situations endpoint to create a single situation, include in the request body the **NAME** and **PDT** properties.

The format of the path is as follows:

```
https://host:port/api/v1/situations
```

For example:

```
{
  "NAME": "Situation_1",
  "PDT": "*IF *VALUE Active_Server_Pages.Allocated_Memory *EQ 1",
  "DISTRIBUTION": [
    "string",
    "string"
  ]
}
```

You can also specify other optional properties. For more information about the request body properties, see [“Request body for creating situations” on page 1108](#).

### Creating multiple situations in a request

When using the PUT /situations endpoint to create multiple situations, include in the request body the **NAME** property and the **PDT** property for each situation you want to create.

The format of the path is as follows:

```
https://host:port/api/v1/situations
```

In the request body, for each situation you want to create, specify the information as a separate object. For example:

```
[
  {
    "NAME" : "Situation_1",
    "PDT": "*IF *VALUE Active_Server_Pages.Allocated_Memory *EQ 1"
  },
  {
    "NAME" : "Situation_2",
    "PDT": "*IF *VALUE Active_Server_Pages.Allocated_Memory *EQ 1",
    "FULLNAME": "124 Situation name"
  }
]
```

You can also specify other optional properties. For more information about the request body properties, see [“Request body for creating situations” on page 1108](#).

### Situation name

You must specify a unique name (the **NAME** property) in the request body to create a new situation.

The specified value is stored in the situation definition as follows:

#### NAME

If the value is 31 characters or less, does not start with a number, and contains only alphanumeric characters or the underscore character, the value is stored as the **NAME** attribute for the situation.

#### FULLNAME

If any of the following conditions exist, the specified value is stored as the **FULLNAME** attribute for the situation:

- The specified value is longer than 31 characters
- The specified value starts with a number

- The specified value contains symbols other than alphanumeric or the underscore character (for example, whitespace characters, question mark, exclamation mark)

When the provided value for the situation name is stored as the **FULLNAME** attribute due to any of these conditions, then the value of the **NAME** attribute is generated automatically and returned in the response body.

**Note:** Both the **NAME** attribute value and the **FULLNAME** attribute value must be unique.

### Request body for creating situations

The following example shows the format of the request body and includes all properties that can be specified.

```

{
  "NAME": "string",
  "ADVISE": "string",
  "AUTOSTART": "string",
  "CMD": "string",
  "FULLNAME": "string",
  "PDT": "string",
  "REEV_DAYS": "string",
  "REEV_TIME": "string",
  "SITINFO": {
    "COUNT": "string",
    "ATOM": "string",
    "TFWD": "string",
    "TDST": "string",
    "SEV": "string"
  },
  "TEXT": "string",
  "REFLEXACTION_OPTIONS": {
    "EACH_ROW": "string",
    "EACH_INTERVAL": "string",
    "WHERE": "string"
  },
  "DISTRIBUTION": [
    "string"
  ]
}

```

In addition to the required properties, include only the properties that you want to define. For properties that are not specified, default values are used.

The following table describes the properties that can be used when creating a situation and also provides the relevant location in the Tivoli Enterprise Portal (TEP).

**Note:** Properties **NAME** and **PDT** are required.

Table 91: Situation elements eligible when creating a situation		
Property	Description	Location in TEP Situation Editor
NAME	<p>The name of the defined situation. The <b>NAME</b> value is 31 characters or less, does not start with a number, and contains only alphanumeric characters or the underscore character.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> This parameter is required.</p> </div>	Formula tab, Name field

Property	Description	Location in TEP Situation Editor
FULLNAME	The <i>name</i> value of the defined situation when the value does not meet the <b>NAME</b> criteria. You can specify the <b>FULLNAME</b> attribute together with the <b>NAME</b> attribute.	<b>Formula</b> tab, <b>Name</b> field
TEXT	Situation description. Valid values: character string, max length 64 bytes  Default value: none (empty field)	<b>Formula</b> tab, <b>Description</b> field

Property	Description	Location in TEP Situation Editor
PDT	<p>Formula containing the thresholds to be tested by the situation. Valid values: character string, max length 1022 characters</p> <div style="border: 1px solid #add8e6; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> This parameter is required.</p> </div> <p>PDT examples for the supported situation types:</p> <ul style="list-style-type: none"> <li>• Standard situation: <div style="border: 1px solid #add8e6; padding: 5px; margin: 5px 0;"> <pre>"PDT": "*IF *VALUE ALL_THREADS.Plan *EQ K06PLAN *AND *VALUE ALL_THREADS.Plan *EQ K07PLAN"</pre> </div> </li> <li>• Correlated situation: <div style="border: 1px solid #add8e6; padding: 5px; margin: 5px 0;"> <pre>PDT": "*IF *VALUE *HSITNAME *EQ SituationToMonitor *AND *VALUE *HNODE *EQ PLEXA:SYSTEM1:MVSSYS *AND *VALUE *HDELTASTAT *EQ Y *AND *VALUE *HSITNAME *EQ SituationToMonitor2 *AND *VALUE *HNODE *EQ PLEXA:SYSTEM2:MVSSYS *AND *VALUE *HDELTASTAT *EQ Y"</pre> </div> <p>A correlated situation in TEMS REST services corresponds to the <b>Correlated Situation</b> type when creating a situation in TEP.</p> <div style="border: 1px solid #add8e6; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> To be valid, PDT must contain at least two existing situations. The statement <code>*HDELTASTAT *EQ Y</code> means that the situation is 'true'. Thus, Y is the only valid <code>*HDELTASTAT</code> value.</p> </div> </li> <li>• Embedded situation: <div style="border: 1px solid #add8e6; padding: 5px; margin: 5px 0;"> <pre>"PDT": "*IF *SIT SituationToMonitor *EQ *TRUE *AND *VALUE TableA.ColumnE *GT 90.0"</pre> </div> <p>An embedded situation in TEMS REST services corresponds to the <b>Situation Comparison</b> option when selecting conditions for a situation in TEP.</p> </li> </ul>	Formula tab, Formula fields

Property	Description	Location in TEP Situation Editor
	<div style="border: 1px solid blue; padding: 10px; background-color: #e6f2ff;"> <p><b>Note:</b> To be valid, PDT must contain at least one existing situation and at least one other clause, which can be another existing situation or an attribute comparison. When including multiple situations, ensure the situations are from the same agent or All Managed Systems.</p> </div>	
SITINFO	<p>Situation definitions that are eligible when creating a situation.</p> <p>The SITINFO object includes various properties in JSON object format, as follows:</p> <pre style="background-color: #f0f0f0; padding: 10px;"> "SitInfo": {   "TFWD": "string",   "SEV": "string",   "TDST": "string",   "ATOM": "string",   "COUNT": "string" } </pre> <p>When specifying the SITINFO object in your request to create a situation, you must include all of these properties.</p> <p>For a description of each of the SITINFO properties, see <a href="#">“SITINFO properties” on page 1114</a>.</p>	Formula and EIF tabs
REEV_DAYS REEV_TIME	<p>Sampling interval. You can change it to as seldom as once in 999 days or as often as 30 seconds.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>For <b>REEV_DAYS</b>, in <i>ddd</i> format, specify 0 - 999 days. The default value is 0.</li> <li>For <b>REEV_TIME</b>, in <i>hhmmss</i> format, you can specify a minimum value of 30 seconds (000030) and a maximum value of 23 hours, 59 minutes, and 59 seconds (235959). The default value is 001500.</li> </ul> <p>For example, the following definitions create a sampling interval of 24 hours and 5 minutes:</p> <pre style="background-color: #f0f0f0; padding: 10px;"> "REEV_DAYS": "1", "REEV_TIME": "000500" </pre>	Formula tab, Sampling interval fields

Property	Description	Location in TEP Situation Editor
AUTOSTART	<p>Run at startup. Specify *YES if you want monitoring to start as soon as the situation is created. If a monitoring agent to which the situation is distributed goes offline, the situation will start automatically when the agent starts again.</p> <p>Specify *NO if you want to start the situation manually.</p> <p>Valid values: *YES, *NO</p> <p>Default value: *YES</p>	Formula tab, Run at startup option
DISTRIBUTION	<p>Managed systems where to run the situation. Use the following format:</p> <pre>"DISTRIBUTION": ["node_1", "node_2"]</pre> <p>where <i>node_n</i> is one or more nodes (managed systems), listed in JSON array format, where to run the situation.</p> <p>For example:</p> <pre>"DISTRIBUTION": [   "*MVS_DB2",   "DB2plex:DB2plex:Plexview",   "TDB2:SYS1:DB2" ]</pre> <p>When defining the DISTRIBUTION values, you must include in the request all the node values to define for the situation.</p> <div style="border: 1px solid blue; padding: 10px;"> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>When correlating situations, ensure that the DISTRIBUTION value is specified as *HUB, which is the only valid value.</li> </ul> <pre>"DISTRIBUTION": [   "*HUB" ]</pre> <ul style="list-style-type: none"> <li>When embedding situations, ensure that DISTRIBUTION is specified and the situations have at least one matching DISTRIBUTION value, otherwise the request is invalid.</li> </ul> </div>	Distribution tab, Assigned field
ADVISE	<p>Expert advice. You can enter text that describes instructions for the user, or provide the URL of a page to display.</p> <p>Default value: none (empty field)</p>	Expert Advice tab, Text or Advice Location field

Property	Description	Location in TEP Situation Editor
CMD	<p>Action to perform when the situation becomes true.</p> <p>To run a system command, use the following format:</p> <pre>"CMD": "system_command"</pre> <p>where <i>system_command</i> is the command to issue at the system.</p> <p>To issue a universal message, use the following format:</p> <pre>"CMD" : "message:category;severity; universal_msg"</pre> <p>where:</p> <ul style="list-style-type: none"> <li>• <i>message</i> is a literal value</li> <li>• <i>category</i> is a one-word term of up to 16 characters</li> <li>• <i>severity</i> is a one-word term of up to 8 characters</li> <li>• <i>universal_msg</i> is the text (up to 245 characters) to display when the situation occurs.</li> </ul> <p>Default value: none</p>	<p>On the <b>Action</b> tab:</p> <ul style="list-style-type: none"> <li>• For system commands: the <b>System Command Selection</b>, and the <b>System Command</b> field.</li> <li>• For universal messages: the <b>Universal Message</b> option under <b>Action Selection</b>, and the <b>Category</b>, <b>Severity</b>, and <b>Message</b> fields.</li> </ul>

Property	Description	Location in TEP Situation Editor
REFLEXACTION_OPTIONS	<p>Indicate the reflex action options to take when the situation becomes true. The REFLEXACTION_OPTIONS object includes the following properties in JSON object format:</p> <pre>"REFLEXACTION_OPTIONS": {   "EACH_ROW" : "Y N",   "EACH_INTERVAL" : "Y N",   "WHERE" : "TEMS TEMA" }</pre> <p><b>EACH_ROW</b></p> <p>If the condition is true for more than one monitored item, specify Y to take action on each item, or specify N to only take action on the first item. The default value is N.</p> <p><b>EACH_INTERVAL</b></p> <p>If the condition stays true over multiple intervals, specify Y to take action in each interval, or specify N to not take action twice in a row. The default value is N.</p> <p><b>WHERE</b></p> <p>When the action is executed, specify TEMS to perform the action at the Managing System (TEMS), or specify TEMA to perform the action at the Managed System (agent). The default value is TEMA.</p> <p>When specifying the REFLEXACTION_OPTIONS object in your request to create a situation, if a property and its value are not specified, the default value is used.</p>	<p>Options on the <b>Action</b> tab: If the condition is true for more than one monitored item:</p> <ul style="list-style-type: none"> <li>Only take action on first item</li> <li>Take action on each item</li> </ul> <p>Where should the Action be executed:</p> <ul style="list-style-type: none"> <li>Execute the Action at the Managed System (Agent)</li> <li>Execute the Action at the Managing System (TEMS)</li> </ul> <p>If the condition stays true over multiple intervals:</p> <ul style="list-style-type: none"> <li>Don't take action twice in a row (wait until situation goes false then true again)</li> <li>Take action in each interval</li> </ul>

The following table describes the situation information properties that are defined in the SITINFO object:

<i>Table 92: SITINFO properties</i>		
Property	Description	Location in TEP Situation Editor
TFWD	<p>Event Integration Facility (EIF) forwarding, which forwards situation events to one or more EIF receivers. Specify Y to forward situation events to one or more EIF receivers. An EIF event is sent for each situation event.</p> <p>Valid values: Y, N</p> <p>Default value: N</p>	<b>EIF</b> tab, <b>Forward Events to an EIF Receiver</b> option
SEV	The severity for forwarded situation events.	<b>EIF</b> tab, <b>EIF Severity</b> field

Property	Description	Location in TEP Situation Editor
TDST	<p>Event Integration Facility (EIF) destinations for the forwarded events. Each destination represents one or more EIF receivers. Use the following format:</p> <pre>"TDST": ["destination_1","destination_2"]</pre> <p>where <i>destination_n</i> is one or more destinations, listed in JSON array format, to which forwarded events will be sent.</p>	<b>EIF</b> tab, <b>Assigned EIF Receivers</b> field
ATOM	<p>For multiple-row attribute groups, you can enable the situation to continue to test all rows in the data sampling and open events. Only columns from tables that are specified in the main formula and are eligible for ATOMIZE are processed.</p> <p>For example, the following definition indicates that only the columns from table REALTHDA that are eligible for ATOMIZE are processed:</p> <pre>"ATOM": "REALTHDA.TDIDPLAN"</pre> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Tip:</b> You can use the GET <code>/system/tables?name=REALTHDA</code> endpoint to identify columns that are eligible for ATOMIZE, as indicated by "ATOMIZE" : <code>true</code>.</p> </div>	On <b>Formula</b> tab, select <b>Advanced</b> settings. On <b>Advanced Situation Options</b> window, <b>Display Item</b> tab, <b>Item</b> field.
COUNT	<p>Consecutive true samples, which is the number of times the situation remains true before an event is opened. Use the following format:</p> <pre>"COUNT": "number"</pre> <p>where <i>number</i> is an integer.</p>	On <b>Formula</b> tab, select <b>Advanced</b> settings. On <b>Advanced Situation Options</b> window, <b>Situation Persistence</b> tab, <b>Consecutive true samples</b> field.

### Importing multiple situations

With the PUT `/situations` endpoint, you can import multiple situations from one runtime environment into a different runtime environment by completing the following steps:

1. In the runtime environment with the existing situations, use the GET `/situations` endpoint to retrieve the situations that you want to be imported into a different runtime environment.
2. Copy the response.
3. Switch to the runtime environment into which you want to import the situations and select the PUT `/situations` endpoint.
4. Insert the copied situations' data into request body and submit the request.

In the response body, you will find the information for each processed situation.

**Important:** The original runtime environment might differ from the destination runtime environment into which you import the situations. So, for all the situations to be imported successfully, make sure you observe the following recommendations before submitting the PUT /situations request:

- If the original runtime environment and the destination runtime environment include nodes (managed systems) with different names, the situations that are distributed to the nodes that do not exist in the destination runtime environment will not be created. This scenario also applies to correlated situations that have node names in the formula. To avoid this scenario, update the node names in DISTRIBUTION or in PDT (for correlated situations) accordingly.
- If you have custom managed system groups in the original runtime environment and want to keep them in the destination runtime environment, you should either create them in the destination runtime environment or rename them accordingly.
- If the situations that you want to import include correlated or embedded situations in them, mind the order of the situations in request body; so that the situations that are included in embedded or correlated situations are defined before the situations that include them. For example, the correlated situation with the name SituationThatMonitors includes SituationToMonitor1 and SituationToMonitor2. In request body, SituationToMonitor1 and SituationToMonitor2 should be placed before SituationThatMonitors, as shown in the following example:

```
[
  {
    "NAME" : "SituationToMonitor1",
    "PDT" : "*IF *VALUE Active_Server_Pages.Allocated_Memory *EQ 1",
    "FULLNAME" : "123 Situation name 1"
  },
  {
    "NAME" : "SituationToMonitor2",
    "PDT" : "*IF *VALUE Active_Server_Pages.Allocated_Memory *EQ 1",
    "FULLNAME" : "124 Situation name 2"
  },
  {
    "NAME" : "SituationThatMonitors",
    "PDT" : "*IF *VALUE *HSITNAME *EQ SituationToMonitor1 *AND *VALUE *HNODE
*EQ PLEXA:SYSTEM1:MVSSYS *AND *VALUE *HDELTASTAT *EQ Y *AND *VALUE
*HSITNAME
*EQ SituationToMonitor2 *AND *VALUE *HNODE *EQ PLEXA:SYSTEM2:MVSSYS *AND
*VALUE *HDELTASTAT *EQ Y",
    "FULLNAME" : "124 Situation name 2"
  }
]
```

## Deleting a situation

This example describes how to use the DELETE /situations endpoint to delete a situation.

The format of the path is as follows:

```
https://host:port/api/v1/situations?name=situation_name&lstdate=YYMMDDHHMMSS000
```

Where:

- *situation\_name* is the name of the situation to delete.
- *YYMMDDHHMMSS000* is the timestamp when the situation was last modified.

**Note:** This timestamp value is used as a locking mechanism to prevent multiple requests aimed at the same situation. For information about the format of the timestamp, see [“Using time values for requests” on page 1093](#).

**Tip:** You can obtain this value by using the GET `/situations` endpoint; the `lstdate` parameter is returned as part of the response.

## Retrieving situation status information

These examples show how to retrieve situation status information. You can retrieve information about current statuses, or you can retrieve a history of the statuses.

- To retrieve current situation status information, use the GET `/situations/status` endpoint. For details, see [“Request current situation statuses” on page 1117](#).
- To retrieve situation status history, use the GET `/situations/status/history` endpoint. For details, see [“Request situation status history” on page 1118](#).

You can filter your results by including certain situation status attributes in the request. For more information, see [“Filter results by attributes” on page 1118](#).

**Note:** A request to a remote monitoring server (RTEMS) returns information about situation statuses from the remote monitoring server. When a query is sent to the hub monitoring server (hub TEMS), it returns information about both the hub TEMS and the RTEMS.

## Request current situation statuses

Current situation status attributes collect status information on situations and policies that are running.

To retrieve current situation status information, use the GET `/situations/status` endpoint, as follows:

- Use the following path to request the current status of all defined situations:

```
https://host:port/api/v1/situations/status
```

The result of this request is a list of current statuses for all defined situations.

- To request the status of a specific situation, include the `name` parameter, set to the unique identifier given to the situation or policy:

```
https://host:port/api/v1/situations/status?name=situation_name
```

The result of this request is only the status for the specified situation. By default, the results for the situation are not included in the response.

To retrieve the results for a situation status, include the `includeResults` parameter, set to `true`:

```
https://host:port/api/v1/situations/status?name=situation_name&includeResults=true
```

**Note:** To use the `includeResults` parameter set to `true`, you must also specify either the `name` or `originnode` parameter in the request.

- You can also filter the results by various attributes, as shown in the following examples:

```
https://host:port/api/v1/situations/status?node=node_name
```

```
https://host:port/api/v1/situations/status?originnode=origin_node_name
```

```
https://host:port/api/v1/situations/status?atomize=display_item
```

```
https://host:port/api/v1/situations/status?deltastat=situation_status
```

You can combine the attribute query parameters in a single request as needed. For more information, see [Filter results by attributes](#).

## Request situation status history

To retrieve situation status history, use the GET `/situations/status/history` endpoint.

When using this endpoint, you must specify the time from when to retrieve the history by including the required time value query parameter **timeFrom** and the optional parameter **timeTill**. For more information about using the time value parameters, see [“Using time values for requests” on page 1093](#).

The following examples show how to retrieve situation status history:

- Use the following path to request the status history of all defined situations since a certain time:

```
https://host:port/api/v1/situations/status/history?timeFrom=YYMMDDHHMMSS
```

The result of this request is a list of status history for all defined situations from the time specified.

To include an end time, also include the **timeTill** parameter in the request:

```
https://host:port/api/v1/situations/status/history?
timeFrom=YYMMDDHHMMSS&timeTill=YYMMDDHHMMSS
```

- To request the status history for a specific situation, include the **name** parameter, set to the unique identifier given to the situation or policy:

```
https://host:port/api/v1/situations/status/history?
name=situation_name&timeFrom=YYMMDDHHMMSS
```

The result of this request is the status history for the specified situation. By default, the results for the situation are not included in the response.

To retrieve the results for a situation status, include the **includeResults** parameter, set to `true`:

```
https://host:port/api/v1/situations/status/history?
name=situation_name&timeFrom=YYMMDDHHMMSS&includeResults=true
```

**Note:** To use the **includeResults** parameter set to `true`, you must also specify either the **name** or **originnode** parameter in the request.

- You can also filter the results by various attributes, as shown in the following examples:

```
https://host:port/api/v1/situations/status/history?
timeFrom=YYMMDDHHMMSS&node=node_name
```

```
https://host:port/api/v1/situations/status/history?
timeFrom=YYMMDDHHMMSS&originnode=origin_node_name
```

```
https://host:port/api/v1/situations/status/history?
timeFrom=YYMMDDHHMMSS&atomize=display_item
```

```
https://host:port/api/v1/situations/status/history?
timeFrom=YYMMDDHHMMSS&deltastat=situation_status
```

You can combine the attribute query parameters in a single request as needed. For more information, see [Filter results by attributes](#).

## Filter results by attributes

When requesting situation status information using GET `/situations/status` or GET `/situations/status/history`, you can filter the results by available attributes that you specify using query parameters.

The following table describes the query parameters for the attributes that you can use to filter your request and also provides a relevant location for the attribute in the Tivoli Enterprise Portal (TEP):

<i>Table 93: Attributes eligible for situation status filtering</i>		
<b>Parameter</b>	<b>Description</b>	<b>Location in TEP</b>
<b>name</b>	Situation name. The unique identifier given to the situation or policy.	<b>Message Log view, Name field</b>
<b>node</b>	Node. The name of the managed system where the situation is distributed and monitored. Use <code>/system/nodes</code> to get information about all nodes on the system.	<b>Message Log view, Node field</b>
<b>originnode</b>	Origin node. The name of the managed system where the situation was triggered. Use <code>/system/nodes</code> to get information about all nodes on the system.	<b>Message Log view, Origin Node field</b>
<b>atomize</b>	<p>Display Item. For multiple-row attribute groups, this attribute enables the situation to continue to test all rows in the data sampling and open events. Only columns from tables that are specified in the main formula and are eligible for ATOMIZE are processed.</p> <p>For example, the following specification requests that only the columns from table REALTHDA that are eligible for ATOMIZE are included in the results:</p> <pre>atomize="REALTHDA.TDIDPLAN"</pre> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p><b>Tip:</b> You can use the <code>GET /system/tables?name=REALTHDA</code> endpoint to identify columns that are eligible for ATOMIZE, as indicated by <code>"ATOMIZE": true</code>.</p> </div>	<b>Message Log view, Display Item field</b>

Parameter	Description	Location in TEP
<b>deltastat</b>	<p>Situation status. The possible values are as follows:</p> <p><b>A</b> Acknowledged. The situation event has been acknowledged.</p> <p><b>D</b> Deleted. The situation has been deleted.</p> <p><b>X</b> Problem. The situation is in a problem state.</p> <p><b>F</b> Expired. The acknowledgment has expired and the situation is still true.</p> <p><b>Y</b> Open. The situation is running and is true.</p> <p><b>N</b> Closed. The situation is running, has been true, and is now false.</p> <p><b>E</b> Reopened. The acknowledgment was removed before it had expired and the situation is still true.</p> <p><b>L</b> (Current situation status only) Started. The situation has been started.</p> <p><b>S</b> (Situation status history only) Started. The situation was started.</p> <p><b>P</b> Stopped. The situation has been stopped.</p>	<b>Message Log</b> view, <b>Status</b> field

## Starting and stopping a situation

This example shows how to start or stop a situation.

- Use the following path to start a specific situation, by including the **name** parameter, set to the situation name:

```
https://host:port/api/v1/situations/start?name=situation_name
```

- Use the following path to stop a specific situation, by including the **name** parameter, set to the situation name:

```
https://host:port/api/v1/situations/stop?name=situation_name
```

## Take Action requests

Using TEMS REST services, you can execute a Take Action. You can also retrieve, edit, create, and delete Take Action command definitions.

## Retrieving Take Action definitions

This example shows how to retrieve Take Action definitions.

Retrieving Take Action definitions uses the GET `/system/actions` endpoint.

**Note:** Take Action definitions are just one type of managed system data that you can retrieve using the TEMS REST API. All managed system data requests use the `/system` resource. For information about retrieving other types of managed system data (such as applications, groups, nodes, and SDA records), see [“Requesting managed system data” on page 1094](#).

Use the GET `/system/actions` endpoint to retrieve a list of Take Action definitions or information for a single Take Action definition, as follows:

- Use the following path to retrieve all Take Action definitions:

```
https://host:port/api/v1/system/actions
```

- Use the following path to retrieve information for a specific Take Action definition, by including the **name** parameter set to the unique identifier given to the Take Action definition:

```
https://host:port/api/v1/system/actions?name=name
```

- Use the **id** parameter to retrieve Take Action definitions by affinity:

```
https://host:port/api/v1/system/actions?id=affinity_id
```

The response for each of these endpoints is a JSON document that contains an array of objects that represent the records returned.

## Editing Take Action definitions

This example describes how to use the PATCH `/system/actions` endpoint to edit existing Take Action definitions.

When using this endpoint, you must provide a request body that specifies the following information for the Take Action to update:

- The name of the Take Action to edit (the **NAME** parameter).
- The date when the Take Action definition was last modified (the **LSTDATE** parameter). Specify this information as a timestamp value. Because this value is updated each time the Take Action definition is edited, you must update the value with each PATCH `/system/actions` request.

**Note:** This timestamp value is used as a locking mechanism to prevent multiple requests from updating the Take Action definition at the same time. For information about the format of the timestamp, see [“Using time values for requests” on page 1093](#).

**Tip:** You can obtain this value by using the GET `/system/actions` endpoint; the **lstdate** parameter is returned as part of the response.

- The Take Action information to modify. The properties that can be updated are described in [“Request body for editing Take Action definitions” on page 1122](#).

The format of the request slightly differs depending on if you are editing a single Take Action definition or multiple Take Action definitions in your request, as described in the following sections.

## Editing one Take Action definition per request

When using the PATCH /system/actions endpoint to edit a single Take Action definition, include in the request body the **NAME** property, the **LSTDATE** property, and the Take Action information to modify.

The format of the path is as follows:

```
https://host:port/api/v1/system/actions
```

For example:

```
{
  "NAME" : "TakeAction_1",
  "CMD" : "NT:AMS_Start_Manage
&KCA_Agent_Availability_Management_Status.PAS_Agent_Name",
  "LSTDATE" : "1230524072538000"
}
```

The properties that can be updated are described in [“Request body for editing Take Action definitions” on page 1122](#).

## Editing multiple Take Action definitions in a request

When using the PATCH /system/actions endpoint to edit multiple Take Action definitions in a single request, you must use the **NAME** and **LSTDATE** properties for each Take Action definition to update.

The format of the path is as follows:

```
https://host:port/api/v1/system/actions
```

In the request body, specify the information to modify for each Take Action definition as a separate object. For example:

```
[
  {
    "NAME" : "TakeAction_1",
    "CMD" : "NT:AMS_Start_Manage
&KCA_Agent_Availability_Management_Status.PAS_Agent_Name",
    "LSTDATE" : "1230524072538000"
  },
  {
    "NAME" : "TakeAction_2",
    "CMD" : "NT:AMS_Start_Manage
&KCA_Agent_Availability_Management_Status.PAS_Agent_Name",
    "LSTDATE" : "1230524072538000"
  }
]
```

The properties that can be updated are described in [“Request body for editing Take Action definitions” on page 1122](#).

## Request body for editing Take Action definitions

The following example shows the format of the request body for Take Action editing requests and includes all supported properties:

```
{
  "NAME": "string",
  "LSTDATE": "string",
  "DESC": "string",
  "CMD": "string",
  "FULLNAME": "string"
}
```

Always include in the request body the **NAME** and the **LSTDATE** properties. For the remainder of the properties, include only those properties that you want to update for the respective Take Action definition.

The following table describes the supported properties.

Table 94: Request body properties for editing Take Action definitions	
Property	Description
NAME	<p>The generated name of the Take Action definition. The <b>NAME</b> value is automatically generated when the Take Action definition is created; this value is provided in the PUT /system/actions response body.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> This parameter is required.</p> </div> <div style="border: 1px solid #0070C0; padding: 5px; margin: 10px 0;"> <p><b>Tip:</b> Use the GET /system/actions endpoint to retrieve <b>NAME</b> value for the Take Action definition that you want to update.</p> </div>
LSTDATE	<p>The timestamp when the Take Action definition was last modified. Because this value is updated each time the Take Action definition is edited, you must update the value with each PATCH /system/actions request.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> This parameter is required.</p> </div>
FULLNAME	<p>The name of the Take Action definition that you define when creating a Take Action definition. Valid values: character string, max length 31 characters.</p>
CMD	<p>The system command to run by the corresponding Take Action. Valid values: character string, max length 512 characters</p> <p>To run a system command, use the following format:</p> <pre style="background-color: #f0f0f0; padding: 5px; margin: 10px 0;">"CMD": "system_command"</pre> <p>where <i>system_command</i> is the command to issue at the system.</p>
DESC	<p>An optional description of a Take Action definition.</p>

## Creating Take Action definitions

This example describes how to use the PUT /system/actions endpoint to create new Take Action definitions.

When using this endpoint, you must provide the following information in the request body:

- The Take Action **FULLNAME**. Specify a unique name to create a new Take Action definition.
- The system command (the **CMD** parameter).
- The affinity ID of the managed system on which to run the command (the **ID** parameter).

You can also specify an optional description for the Take Action definition.

The format of the request slightly differs depending on if you are creating a single Take Action definition or multiple Take Action definitions in your request, as described in the following sections.

### Creating one Take Action definition per request

When using the PUT /system/actions endpoint to create a single Take Action definition, include in the request body the **FULLNAME**, **ID**, and **CMD** properties.

The format of the path is as follows:

```
https://host:port/api/v1/system/actions
```

For example:

```
{
  "FULLNAME" : "TakeAction_1",
  "CMD" : "NT:AMS_Start_Manage
&KCA_Agent_Availability_Management_Status.PAS_Agent_Name",
  "ID" : "ManagedSystemAffinityID_1"
}
```

### Creating multiple Take Action definitions in a request

When using the PUT /system/actions endpoint to create multiple Take Action definitions in a single request, include in the request body the **FULLNAME**, **ID**, and **CMD** properties for each Take Action definition to create.

The format of the path is as follows:

```
https://host:port/api/v1/system/actions
```

In the request body, for each Take Action definition you want to create, specify the information as a separate object. For example:

```
[
  {
    "FULLNAME" : "TakeAction_1",
    "CMD" : "NT:AMS_Start_Manage
&KCA_Agent_Availability_Management_Status.PAS_Agent_Name",
    "ID" : "ManagedSystemAffinityID_1"
  },
  {
    "FULLNAME" : "TakeAction_2",
    "CMD" : "NT:AMS_Start_Manage
&KCA_Agent_Availability_Management_Status.PAS_Agent_Name",
    "ID" : "ManagedSystemAffinityID_2"
  }
]
```

### Request body for creating Take Action definitions

The following example shows the format of the request body and includes all properties that can be specified.

```
{
  "FULLNAME": "string",
  "ID": "string",
  "CMD": "string",
  "DESC": "string"
}
```

Always include in the request body the **FULLNAME**, **ID**, and **CMD** properties.

The following table describes the supported properties.

Table 95: Request body properties for creating Take Action definitions	
Property	Description
ID	The affinity ID of the managed system where the Take Action can be executed.  <b>Note:</b> This parameter is required.

Property	Description
FULLNAME	<p>The unique name of the Take Action that you define when creating a Take Action definition. Valid values: character string, max length 31 characters.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> This parameter is required.</p> </div>
CMD	<p>The system command to run by the corresponding Take Action. Valid values: character string, max length 512 characters.</p> <p>To run a system command, use the following format:</p> <pre style="background-color: #F0F0F0; padding: 5px; margin: 10px 0;">"CMD": "system_command"</pre> <p>where <i>system_command</i> is the command to issue at the system.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> This parameter is required.</p> </div>
DESC	An optional description of the Take Action definition.

When the request is successfully completed, the response body will display an information message with the generated **NAME** value.

## Executing a Take Action

This example describes how to use the POST `/system/actions/execute` endpoint to execute a Take Action.

When using this endpoint:

- You must specify the name of a defined Take Action using the **name** query parameter.
- You must provide a request body that includes the **destination** property that lists the nodes (managed systems) where to execute the Take Action.
- If variables are used in the Take Action, you can specify the variable and value pairs in the **arguments** property in the request body.

The format of the path is as follows:

```
https://host:port/api/v1/system/actions/execute?name=action_name
```

where *action\_name* is the name of a defined Take Action.

The format of the request body is as follows:

```
{
  "destination": ["node_1", "node_2"]
  "arguments":
    {
      "variable_1": "value_1",
      "variable_2": "value_2"
    }
}
```

where:

- *node\_n* is one or more nodes (managed systems), listed in JSON array format, where to execute the Take Action
- *variable\_n* and *value\_n* are the names and values for variables in the Take Action

## Deleting a Take Action definition

This example describes how to use the DELETE `/system/actions` endpoint to delete a Take Action definition.

The format of the path is as follows:

```
https://host:port/api/v1/system/actions?name=action_name&lstdate=YYMMDDHHMMSS000
```

Where:

- `action_name` is the name of a defined Take Action.
- `YYMMDDHHMMSS000` is the timestamp when the Take Action definition was last modified.

**Note:** This timestamp value is used as a locking mechanism to prevent multiple requests aimed at the same Take Action definition. For information about the format of the timestamp, see [“Using time values for requests” on page 1093](#).

**Tip:** You can obtain this value by using the GET `/system/actions` endpoint; the `lstdate` parameter is returned as part of the response.

## IBM Z® OMEGAMON® Data Provider

IBM Z OMEGAMON Data Provider makes data from z/OS available to various destinations.

Typically, the data consists of metrics or events from z/OS subsystems or applications, and the destinations are analytics platforms that analyze that data.

Data sources for OMEGAMON Data Provider include the following OMEGAMON products or components:

- OMEGAMON monitoring agents on z/OS
- Tivoli Enterprise Monitoring Server

For more information, see the following content:

- In [IBM Z OMEGAMON Data Provider](#) documentation:
  - [Configuring OMEGAMON monitoring agents as a data source](#)
  - [Characteristics of output from OMEGAMON monitoring agents](#)
  - [Configuration Manager parameters for OMEGAMON Data Provider](#)
- In [OMEGAMON shared documentation](#):
  - [“How to: Add OMEGAMON Data Provider to a runtime environment” on page 357](#)
  - [“\(Optional\) Configure situation status streaming” on page 577](#)
  - [“Stream situation status updates to OMEGAMON Data Provider” on page 1126](#)

### Stream situation status updates to OMEGAMON Data Provider

Using the Tivoli Enterprise Monitoring Server and OMEGAMON Data Provider, you can stream situation status updates from your OMEGAMON® monitoring agents to third-party analytics platforms, such as Instana, Splunk, Elastic Stack, Apache Kafka, OpenTelemetry, Prometheus and Grafana. This feature is also referred to as *situation status streaming*.

When a situation status changes (the situation starts, stops, becomes true, or becomes no longer true), the Tivoli Enterprise Monitoring Server forwards the activity to OMEGAMON Data Provider. Then, OMEGAMON Data Provider forwards the data to the integrated third-party analytics platform. The transferred data is in JSON format.

To enable situation status streaming, see [“\(Optional\) Configure situation status streaming” on page 577](#).

**Note:** When situation status streaming is enabled (**KDS\_STREAM\_SITUATION\_STATUS** set to Y), it is enabled for all situations; you cannot enable situation status streaming for only specific situations. To disable situation status streaming for all situations, set the value of parameter **KDS\_STREAM\_SITUATION\_STATUS** to N. If you change the **KDS\_STREAM\_SITUATION\_STATUS** parameter value, you must restart the monitoring server.

The following table describes the situation properties that are forwarded (in JSON format) from the monitoring server to OMEGAMON Data Provider, and subsequently to the integrated analytics platforms.

<i>Table 96: Situation properties forwarded to the integrated analytics platform</i>	
<b>Property</b>	<b>Description</b>
product_code	The three-character <i>kpp</i> product code of the monitoring agent that owns the table. The value for situation status streaming is <i>ksm</i> .
table_name	Name of the table that is mapped for situation statuses.
table_version	An integer representing the table schema version.
situation_name	Name of the situation with a status change.
predicate	Situation formula.
type	The type of situation event. The possible types are as follows: <ul style="list-style-type: none"> <li>• Pure. The situation has no sampling interval; it is not re-evaluated with a specified frequency.</li> <li>• Sampled. The situation formula has a specified sampling interval and gets reevaluated based on that interval.</li> <li>• Error. The situation formula is incorrect; for example, it fails to properly start.</li> </ul>
write_time	Date and time when the status change was sent.
system_name	Name of the system from which the status change was sent.
sysplex_name	Name of the z/OS sysplex from which the status update was sent.
smf_id	The SMF ID of the z/OS LPAR from which the status change was sent.
local_timestamp	Timestamp value from the Tivoli Enterprise Monitoring Server. The format for the time values consists of 16 digits as follows: <i>YYMMDDHHMMSS000</i>  Where: <ul style="list-style-type: none"> <li>• <i>YYY</i> is the number of years since the year 1900.</li> <li>• <i>MMDDHHMMSS</i> is months, days, hours, minutes, and seconds, respectively.</li> <li>• The last three digits are zeros.</li> </ul>
deltastat	Situation status. The possible values are as follows: <ul style="list-style-type: none"> <li>• Started. The situation started.</li> <li>• Stopped. The situation stopped.</li> <li>• True. The situation rule is triggered.</li> <li>• No longer true. The situation was true but the next time the condition is reevaluated, the situation is not true anymore.</li> <li>• Situation in error. This value is returned when something is wrong with the situation formula.</li> </ul>

Property	Description
situation_results	Object with the data on the situation with a status change. This data is included only when the <b>del<del>ta</del>stat</b> value is <b>True</b> .
originnode	Origin node. The name of the managed system where the situation was triggered. This data is included when the <b>del<del>ta</del>stat</b> value is <b>True</b> or <b>No longer true</b> .

## IBM Z Service Management Explorer

*IBM Z Service Management Explorer (IZSME)* is an OMEGAMON user interface, similar in appearance and function to the Java-based Tivoli Enterprise Portal. IZSME is a Web application running as a Zowe desktop plug-in.

### Introduction to IBM Z Service Management Explorer

IBM Z Service Management Explorer (IZSME®) is a web-based replacement for the Tivoli Enterprise Portal (TEP), with the same layout, so users will be immediately familiar with the interface and workflow. The difference is that while TEP is a Java client, IZSME® is a web application running as a Zowe™ desktop plug-in, eliminating the need for users to install and maintain desktop Java and TEP software.

Because the IZSME® interface is a Zowe desktop plug-in, one or more IZSME® windows may be open on the Zowe desktop alongside other Zowe plug-in windows, all within a single web browser tab or on multiple tabs. The Zowe plug-in for IZSME® connects directly to an existing Tivoli Enterprise Portal Server (TEPS) or Tivoli Enterprise Monitoring Server (TEMS), so no change is required to the TEPS or TEMS infrastructure, and all custom workspaces defined by the user will be visible in IZSME®. IZSME® can fully coexist with TEP, meaning that edits to workspaces by TEP are immediately visible in IZSME®. The TEPS server must be running in order to use IZSME®.

IZSME® supports Chrome, Firefox, and Microsoft Edge. The TEPS, LDAP, and Zowe authentication types are supported for user logins.

### Supported products

IBM Z Service Management Explorer (IZSME) can be used with a variety of IBM products. This interface is customizable and provides many menus, options, and types of reports that allow customers to more easily view data and perform actions that would normally require many more steps.

IZSME currently supports the following IBM products:

- IBM Tivoli Advanced Allocation Management for z/OS
- IBM Tivoli Advanced Audit for DFSMSHsm
- IBM Tivoli Advanced Backup and Recovery
- IBM Tivoli Advanced Catalog Management for z/OS
- IBM Tivoli Advanced Reporting and Management for DFSMSHsm
- IBM Tivoli Allocation Optimizer for z/OS
- IBM Tivoli Automated Tape Allocation Manager
- IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics
- IBM Tivoli Tape Optimizer for z/OS
- IBM Z® OMEGAMON® for CICS®
- IBM Z® OMEGAMON® for CICS® TG
- IBM Z® OMEGAMON® AI for Db2
- IBM OMEGAMON for IMS on z/OS

- IBM OMEGAMON for Messaging on z/OS
- IBM MQ Monitoring Agent
- IBM Integration Bus Monitoring Agent
- IBM OMEGAMON for Storage on z/OS
- IBM Z OMEGAMON for JVM
- IBM Z OMEGAMON Monitor for z/OS
- IBM Z OMEGAMON Network Monitor

## What's new in IZSME®

These new features are available in IZSME® v1.1.8.

### Version 1.1.8

This version of IBM Z Service Management Explorer contains the following enhancements and changes:

- Take Action is now available from the Navigator, the Situation Event Console, and workspace views. This allows you to respond quickly when predefined situations become true. See [Take Action from the Navigator, Situations and Workspaces](#)
- You can now purge CICS transactions from IZSME®. See [“Purging CICS tasks” on page 1154](#). **Required OMEGAMON for CICS PTF: UJ07731.**
- IZSME® has improved management of agent status information. To achieve better performance and more accurate display of agent status, INODESTS tables are now updated every 30 seconds, regardless of whether the browser requested an update. To reduce resource costs, updates are incremental; changes only, not the entire table, and tables that have not been used in at least 600 seconds are not updated.

### IMPORTANT: Securing communications with mutual auth TLS

IZSME® must be configured to use mutual authentication to secure communications between Java Sidecar and the Zowe® Node server. Sites that have previously configured AT-TLS for a previous version of IZSME® will need to configure AT-TLS again, to enable mutual authentication TLS with version 1.1.8. See [“Configuring mutual auth TLS to secure Node - JavaSidecar communications” on page 1145](#) for details.

## IZSME® Environment Requirements

IBM Z Service Management Explorer (IZSME®) requires several products and tools to be installed in your environment:

### z/OS

IZSME® will run on z/OS V02.02.00 or later.

Make sure you have the following minimum disk space and memory available:

- Disk (DASD): 550 MB of file systems storage, either HFS or zFS
- Memory: 1.5 GB of Central Storage

### Other operating systems

The Tivoli Enterprise Monitoring Server (TEMS) can be used with zLinux, Linux, UNIX and Windows.

### Zowe®

IZSME® requires Zowe® version 1.20 or later. Applying PTFs U001969 and U001980 will upgrade Zowe to version 1.20.1.

You can download Zowe here:

[IBM Z Distribution for Zowe](#)

## Java

IZSME® requires Java version 8.

## Node

IZSME® requires Node.js version from 12 to 18 (inclusive).

## Web Browser

IZSME® works with three of the web browsers supported by Zowe: Chrome, Firefox, and Microsoft Edge. Safari is not supported. For more information, see [Zowe Desktop requirements \(client\)](#).

## Supported TEPS Databases

IZSME® requires that the database used by the TEPS for managing workspaces/users must be Db2. There are currently no plans to support other databases, particularly the embedded Derby database.

# Installation and Configuration

Use the topics in this section to install and configure IBM Z Service Management Explorer (IZSME®).

## Installing IZSME® on z/OS® systems

Perform the necessary steps to install, maintain, configure, and start IBM Z Service Management Explorer (IZSME®) on a z/OS system.

### About this task

Installing IZSME® on z/OS involves installing Zowe® on z/OS, installing IZSME® on z/OS, and then installing IZSME® as a plug-in in the Zowe® instance. Additional configuration options are also available for customizing the Zowe® instance for IZSME®.

The following procedure provides a high-level overview of this process with links to individual tasks.

### Procedure

1. If not already installed, install Zowe® on z/OS®. For details about installing Zowe®, see [Installing Zowe® z/OS components](#).

**Important:** IZSME® requires Zowe® 1.20 or later. Zowe® 2.0 and 2.1 are not supported; Zowe® 2.2 and later are supported.

2. Using SMP/E, install IZSME® on z/OS as described in the [Program Directory for IBM Z Service Management Explorer 6.3.4](#). The SMP/E package provides a number of sample jobs in the #tgeth1q.SIUWSAMP data set that are used in subsequent steps.
3. (Optional) If you have enabled role-based access control (RBAC), make sure to provide access to the IZSME® plug-in for all roles that need access by editing the `allowedPlugins.json` file. For more information, see [“Role-based access control \(RBAC\)” on page 1146](#).
4. Depending on the Zowe® version you have installed, install IZSME® into your Zowe® instance using one of the following procedures:
  - [“Install IZSME in Zowe 2” on page 1132](#).
  - [“Install IZSME in Zowe 1” on page 1133](#).

**Note:** If you are migrating from Zowe® 1 to Zowe® 2, you can move your IZSME® data from Zowe® 1 to Zowe® 2. For details, see [“Migrate IZSME data from Zowe 1 to Zowe 2” on page 1134](#).

5. [“Apply maintenance to an existing IZSME installation” on page 1135.](#)
6. (Optional) [“Configure the Zowe instance for IZSME” on page 1136.](#)
7. [“Start IZSME” on page 1137.](#)

## Install IZSME® in Zowe® 3

You can install IZSME® into a Zowe® 3 instance to effectively monitor and manage IBM® Z systems.

### Before you begin

The following requirements apply:

- You can install IZSME® in Zowe® 3.1 and later.
- The minimum required IZSME® PTF level is OA65763.

### About this task

This task uses the following sample jobs that are provided in the #tgthlq.SIUWSAMP data set:

- IUWMUNPX
- IUWMUPPT

In each job, the JCL provides instructions about how to customize the job before running it.

### Procedure

1. Install IZSME® base by running the IUWMUNPX job, which extracts the base IZSME® runtime files into the IZSME® installation directory.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

2. Update IZSME® runtime files by running the IUWMUPPT job, which extracts an IZSME® PTF.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

3. Add the **"javaHome"**: <PATH\_TO\_JAVA\_V8\_DIRECTORY> parameter into the pluginConfig.json file located in <IZSME\_HOME>/ctds/teps\_utils/config. The following example illustrates how the contents of pluginConfig.json appear after making the necessary edits:

```
{
  "javaHome": /rsusr/java/IBM/J8.0_64
}
```

Where:

- PATH\_TO\_JAVA\_V8\_DIRECTORY is the absolute path to Java v8 runtime directory.
- IZSME\_HOME is the absolute path to the IZSME® directory.

**Remember:** If pluginConfig.json does not exist in <IZSME\_HOME>/ctds/teps\_utils/config directory, it must be created at the location specified—this pluginConfig.json file is used only during an installation or update of IZSME®, not for run.

4. Install the IZSME® components into Zowe® by running the following command:

```
<ZOWE_RUNTIME_DIRECTORY>/bin/zwe components install -c <ZOWE_YAML> -o <IZSME_HOME>
```

Where:

- ZOWE\_RUNTIME\_DIRECTORY is the absolute path to the Zowe® runtime directory.
  - ZOWE\_YAML is the absolute path to the Zowe® YAML file for an instance.
  - IZSME\_HOME is the absolute path to the IZSME® directory.
5. Add the "javaHome": <PATH\_TO\_JAVA\_V8\_DIRECTORY> parameter into the pluginConfig.json file located in the <ZOWE\_HOME>/workspace/app-server/ZLUX/pluginStorage/com.rs.tep.queryhandler/pluginConfiguration directory. The following example illustrates how the contents of pluginConfig.json appear after making the necessary edits:

```
{  
  "javaHome": /rsusr/java/IBM/J8.0_64  
}
```

Where:

- PATH\_TO\_JAVA\_V8\_DIRECTORY is the absolute path to Java v8 runtime directory.
- IZSME\_HOME is the absolute path to the IZSME® directory.

**Remember:** If pluginConfig.json does not exist in <ZOWE\_HOME>/workspace/app-server/ZLUX/pluginStorage/com.rs.tep.queryhandler/pluginConfiguration directory, it must be created at the location specified—this pluginConfig.json file is used only during IZSME® run, not for installation or update.

6. Disable node clustering in the Zowe® instance by adding the following line to the zowe.yaml configuration file, as IZSME® does not support node clustering:

```
zowe.environments.ZLUX.NO_CLUSTER: 1  
zowe.configmgr.validation: "COMPONENT-COMPAT"  
components.zss.agent.64bit: false
```

7. Restart the Zowe® server.

## Install IZSME® in Zowe® 2

You can install IZSME® into a Zowe® 2 instance to effectively monitor and manage IBM® Z systems.

### Before you begin

The following requirements apply:

- You can install IZSME® in Zowe® 2.2 and later. However, Zowe® 2.0 and 2.1 are not supported.
- The minimum required IZSME® PTF level is OA64754.
- If you are using Zowe® 2.3 through 2.7, you must disable Zowe® Configuration Manager by adding the following line to the zowe.yaml configuration file:

```
zowe.useConfigmgr: false
```

For more information about zowe.useConfigmgr, refer to the [Zowe®](#) documentation.

### About this task

This task uses the following sample jobs that are provided in the #tgeth1q.SIUWSAMP data set:

```
IUWMUNPX  
IUWMUPPT
```

In each job, the JCL provides instructions about how to customize the job before running it.

The following instructions explain how to install IZSME® in Zowe® 2.

## Procedure

1. Install the IZSME® base by running the IUWMUNPX job, which extracts the base IZSME® runtime files into the IZSME® installation directory.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

2. Update the IZSME® runtime files by running the IUWMUPPT job, which extracts an IZSME® PTF.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

3. Install the IZSME® components into Zowe® by running the following command:

```
<ZOWE_RUNTIME_DIRECTORY>/bin/zwe components install -c <ZOWE_YAML> -o <IZSME_HOME>
```

Where:

- ZOWE\_RUNTIME\_DIRECTORY is the absolute path to the Zowe® runtime directory.
  - ZOWE\_YAML is the absolute path to the Zowe® YAML file for an instance.
  - IZSME\_HOME is the absolute path to the IZSME® directory.
4. Disable node clustering in the Zowe® instance by adding the following line to the `zowe.yaml` configuration file, as IZSME® does not support node clustering:

```
zowe.environments.ZLUX_NO_CLUSTER: 1
```

5. Restart the Zowe® server.

## Install IZSME® in Zowe® 1

You can install IZSME® into a Zowe® 1 instance to effectively monitor and manage IBM® Z systems.

### Before you begin

IZSME® requires Zowe® 1.20 or later.

### About this task

This task uses the following sample jobs that are provided in the `#tqthlq.SIUWSAMP` data set:

```
IUWMUNPX  
IUWMINST  
IUWMUPPT
```

In each job, the JCL provides instructions about how to customize the job before running it.

## Procedure

1. Install the IZSME® base by running the IUWMUNPX job, which extracts the base IZSME® runtime files into the IZSME® installation directory.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

2. Deploy IZSME® into a pre-installed Zowe® instance by running the IUWMINST job.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

**Important:** You can deploy the same IZSME® installation into multiple Zowe® instances. If you do so, all Zowe® instances will have their IZSME® upgraded every time you apply maintenance to the IZSME® installation.

**Tip:** After you have run this script for the first time, you can set the IZSME® installation directory to read-only (that is, it can be mounted read-only).

3. Update the IZSME® runtime files by running the IUWMUPPT job, which extracts an IZSME® PTF.

**Note:** You can follow the instructions inside the script to learn how you can customize your environment.

4. Disable node clustering in the Zowe® instance by adding the following line to the `instance.env` file, as IZSME® does not support node clustering:

```
ZLUX_NO_CLUSTER=1
```

5. Restart the Zowe® server.

## Migrate IZSME® data from Zowe® 1 to Zowe® 2

Use this procedure to migrate your IZSME® data from Zowe® 1 to Zowe® 2.

### Before you begin

You must have IZSME® installed in Zowe® 2. For more information, see [“Install IZSME in Zowe 2” on page 1132](#).

### About this task

You can use an IZSME® instance from Zowe® 1 in Zowe® 2. By migrating the IZSME® data, all configured connections, downloaded SDA files, and settings will be available in Zowe® 2. The minimum required PTF level is OA64754.

Use the following steps to migrate your IZSME® data from Zowe® 1 to Zowe® 2.

### Procedure

1. Copy IZSME® data from Zowe® 1 to Zowe® 2 by issuing the following z/OS® UNIX® System Services commands:

```
cp -R <ZOWE_V1_INSTANCE_DIRECTORY>/workspace/app-server/ZLUX/pluginStorage/com.rs.om.webportal <ZOWE_V2_INSTANCE_DIRECTORY>/workspace/app-server/ZLUX/pluginStorage/com.rs.om.webportal

cp -R <ZOWE_V1_INSTANCE_DIRECTORY>/workspace/app-server/ZLUX/pluginStorage/com.rs.tep.queryhandler <ZOWE_V2_INSTANCE_DIRECTORY>/workspace/app-server/ZLUX/pluginStorage/com.rs.tep.queryhandler
```

where:

ZOWE\_V1\_INSTANCE\_DIRECTORY is the path to the Zowe® 1 instance  
ZOWE\_V2\_INSTANCE\_DIRECTORY is the path to the Zowe® 2 instance

2. (Optional) If you plan to continue to use your Zowe® 1 instance, you must provide a new value for the Java Sidecar listener port range for the Zowe® 2 instance; the value for Zowe® 2 must be different from the

value in Zowe® 1. To update the port range, change the value for the `javaListenerPort` property in the `pluginConfig.json` configuration file, which exists in the following location:

```
<ZOWE_V2_INSTANCE_DIRECTORY>/workspace/app-server/ZLUX/pluginStorage/  
com.rs.tep.queryhandler/pluginConfiguration/pluginConfig.json
```

where:

`ZOWE_V2_INSTANCE_DIRECTORY` is the path to the Zowe® 2 instance  
For more information about the port value, see [“Configuring Java Sidecar” on page 1139](#).

## Apply maintenance to an existing IZSME® installation

Use this procedure to apply maintenance to an existing IZSME® installation.

### Before you begin

Locate the latest IZSME® maintenance and use SMP/E to apply the PTF to your IZSME® libraries.

### About this task

This task uses the following sample jobs that are provided in data set `#tqth1q.SIUWSAMP`:

`IUWMUPPT`

`IUWMPPT` (for Zowe® 1 environments only)

In each job, the JCL provides instructions about how to customize the job before running it.

The following instructions explain how to apply maintenance or upgrades to your IZSME® installation.

### Procedure

The process for applying IZSME® maintenance depends on your Zowe® version, as follows:

#### For Zowe® 2 environments

1. Update the IZSME® runtime files by running job `IUWMUPPT`, which extracts an IZSME® PTF. Follow the customization instructions inside the script.

**Note:** This job (`IUWMUPPT`) upgrades the target IZSME® installation directory. If you have installed the same IZSME® installation directory into multiple Zowe® instances, running this job upgrades the IZSME® plug-in for all Zowe® instances.

2. Check if the specific maintenance level has additional instructions and perform further steps if applicable.
3. Restart each Zowe® instance to pick up the changes.

#### For Zowe® 1 environments

1. Update the IZSME® runtime files by running job `IUWMUPPT`, which extracts an IZSME® PTF. Follow the customization instructions inside the script.

**Note:** This job (`IUWMUPPT`) upgrades the target IZSME® installation directory. If you have installed the same IZSME® installation directory into multiple Zowe® instances, running this job upgrades the IZSME® plug-in for all Zowe® instances.

2. Complete the application of maintenance for Zowe® 1 environments by running job `IUWMPPT`.
3. Check if the specific maintenance level has additional instructions and perform further steps if applicable.

**Important:** When you apply PTF `OA64754` in a Zowe® 1 environment, you must perform the following steps after completing the PTF installation:

- a. Delete the following file:

```
<ZOWE_HOME>/workspace/app-server/plugins/com.rs.ctds_common.json
```

- b. Run the following command to install IZSME® into the Zowe® instance:

```
<ZOWE_HOME>/bin/install-app.sh <IZSME_HOME>/ctds_common
```

where:

IZSME\_HOME is the path to the IZSME® directory

ZOWE\_HOME is the path to the Zowe® instance directory

4. Restart each Zowe® instance to pick up the changes.

## Configure the Zowe® instance for IZSME®

Configure your Zowe® instance for IZSME®. Configuration varies depending on your Zowe® version.

### Configuring Zowe® 2 environments

The following list provides options for configuring your Zowe® 2 instance:

#### Disable node clustering

(Required) IZSME® does not support node clustering. You must disable clustering in the Zowe® instance by adding the following line to the `zowe.yaml1` configuration file:

```
zowe.environments.ZLUX_NO_CLUSTER: 1
```

**Note:** If node clustering is not disabled, IZSME® will not connect to the database.

#### Reduce Zowe® footprint

(Optional) IZSME® depends on only the Zowe® Desktop component. For the most lightweight instance, set the following parameter in the `zowe.yaml1` configuration file, as follows:

```
zowe.components.gateway: FALSE
```

#### Disable Zowe® Configuration Manager

(Required for Zowe® 2.3 through 2.7) If you are using Zowe® 2.3 through 2.7, you must disable Zowe® Configuration Manager by adding the following line to the `zowe.yaml1` configuration file before IZSME® installation:

```
zowe.useConfigmgr: false
```

**Note:** For more information about `zowe.useConfigmgr`, see [Zowe release notes for version 2.8.0](#).

#### Use custom background graphics

(Optional) IZSME® allows you to add your own custom background images. JPG and PNG formats are supported. Put your graphics files in the `backgrounds` folder, which exists in the following location:

```
\instance\users\ZLUX\plugins\com.rs.om.webportal\web\assets\graphics-background-images\backgrounds
```

### Configuring Zowe® 1 environments

The following list provides options for configuring your Zowe® 1 instance:

## Disable node clustering

(Required) IZSME® does not support node clustering. You must disable clustering in the Zowe® instance by adding the following line to the `instance.env` file:

```
ZLUX_NO_CLUSTER=1
```

**Note:** If node clustering is not disabled, IZSME® will not connect to the database.

## Reduce Zowe® footprint

(Optional) IZSME® depends on only the Zowe® Desktop component. For the most lightweight instance, add (or modify) the `LAUNCH_COMPONENT_GROUPS` setting in the `instance.env` configuration file, as follows:

```
DESKTOP: LAUNCH_COMPONENT_GROUPS=DESKTOP
```

## Use custom background graphics

(Optional) IZSME® allows you to add your own custom background images. JPG and PNG formats are supported. Put your graphics files in the `backgrounds` folder, which exists in the following location:

```
\instance\users\ZLUX\plugins\com.rs.om.webportal\web\assets\graphics-background-images\backgrounds
```

## Start IZSME®

After you have completed the installation steps, you are ready to start using Zowe® and IZSME®. The next time you start Zowe®, the new **IBM Z Service Management Explorer** plug-in will be displayed on the **Zowe®** applications menu.

## Configuring IZSME®

After installing *IBM Z Service Management Explorer*, the next step is to configure it for your environment. You can add, edit, or delete a Tivoli Enterprise Portal Server (TEPS) for IZSME®.

When you open IZSME® for the first time, a window displays with a message that there is no Tivoli Enterprise Portal Server (TEPS) defined as the default server. You must configure at least one TEPS to use as the default server, and the TEPS must be running in order to use IZSME®.

### Adding a new TEPS to the list

To configure a new TEPS for use, follow the steps below.

1. From the window that displays the **No default TEPS is configured** message, click on the **Settings** gear icon in the top right corner. The **Settings** screen will be displayed.
2. Click the **Add new** button at the top of the screen. The **Add Connection** window is displayed.
3. Specify values for the following fields.

**Note:** Chinese characters are not supported in any of the fields in the configuration user interface. To connect IZSME® to TEPS databases, Tivoli Data Warehouse, and LDAP servers, you will not be able to use Chinese characters for the following fields:

- Database schema name
- Administrator username and password for connecting to databases and LDAP servers
- DNS names for TEMS and other servers configured here

## Zowe® authentication

Specify whether or not Zowe authentication should be enabled. When Zowe authentication is enabled (the default), users will be authenticated against Zowe when they choose this configuration upon launching IZSME®.

#### TEMS properties – Host

Specify the host name or IP address for this Tivoli Enterprise Monitoring Server (TEMS). This setting is the host name or IP address of the machine where the hub TEMS is installed.

#### TEMS properties – Port

Specify a numeric value for the port. The standard port value is 1918.

#### Hot Standby TEMS Host (optional)

This optional field allows you to specify a secondary High Availability TEMS host in case the primary TEMS is not available. If you wish to specify a secondary TEMS, specify the host name or IP address of the machine where the secondary TEMS is installed. If you do not want to specify a secondary High Availability TEMS, leave this field blank.

#### Database properties – Host

Specify the host name for this TEPS database.

#### Database properties – Port

Specify a numeric value for the port. The standard port value is 50000.

#### Database properties – Username

Specify the user ID of the person who has access to this database.

#### Database properties – Password

Specify the password associated with the Username.

#### JDBC URL

This URL is built for you automatically based on the values you specify in the other fields on this screen. If you are using the default database name (TEPS), you do not need to change the URL. However, if you are not using the default database name, you can change the URL to suit your environment. Any changes made to the URL will be changed in the fields above vice versa. Also, you may need to specify the *currentSchema* special register. For example, if the schema for TEPS tables is ITMUSER (and that is not the database username you entered), you would edit the JDBC URL as shown in this example:

```
jdbc:db2://myhost:50000/TEPS
```

Change to:

```
jdbc://myhost:50000/TEPS:currentSchema=ITMUSER;
```

**Note:** The JDBC URL must end with a semi-colon (;) or an error message will display.

#### TEPS properties – Host

Specify the host name or IP address for this Tivoli Enterprise Portal Server (TEPS). This setting is the host name or IP address of the machine where the TEPS is installed.

#### TEPS properties – Port

Specify a numeric value for the port.

4. Click **Test**, on the right side of the **Database properties** section, to verify that these values are acceptable. If not, try a different value.
5. Click **Save** to add this TEPS to the list.

## Editing a TEPS configuration

To edit a TEPS configuration:

1. Click the **Settings** gear icon in the top right corner.
2. On the **Settings** window, highlight the line you want to change.
3. Click the **kabob menu** (three vertical dots) in the header bar. (You may need to page right to see the rest of the screen.)
4. Click **Edit**.
5. The **Edit Connection** window displays the current settings for this highlighted line.
6. Change the values you need to adjust and click **Save**. If you do not want to make any changes, click **Cancel**.

## Viewing a list of existing Tivoli Enterprise Portal Servers (TEPS)

To view a list of TEPS servers that have already been defined for IZSME®, click the **Settings** gear icon in the top right corner. A **star** appears next to the first item on the list, indicating that this TEPS is the default server. All of the information in this window was provided when each of the TEPS was added to the list.

The **DB Status** column shows the status of the TEPS database:

- Available – The connection is good.
- Error – No connection was made.
- Unknown – No connection has been attempted yet.

The **TEMS Status** column shows the status of the Tivoli Enterprise Monitoring Server. The status can be one of the following:

- Available – The connection is good.
- Error – No connection was made.
- Unknown – No connection has been attempted yet.

## Configuring an LDAP connection

IZSME® uses Lightweight Directory Access Protocol (LDAP) to connect to various directories. You can specify one LDAP connection for each TEPS:

1. Click the **Settings** gear icon in the top right corner. You will see the **Settings** screen with several columns of data and the **LDAP** column on the far right side.
2. Right-click anywhere in the LDAP column to see a list of options. Choose **Configure LDAP**.
3. Turn on LDAP authentication by moving the slide to "On".
4. Specify the **LDAP Host**.
5. Specify a number for the **LDAP Port**. An example of the port number is 389.
6. Specify the **Username** and **Password** for the Root directory.
7. The **Repository base entry distinguished name** field is where all the values you have previously specified are listed as one long name. An example is listed under the entry field.
8. Click **Save**. The **Settings** screen will indicate **On** for LDAP in the default TEPS database.

## Configuring Java Sidecar

Java Sidecar is a Java process that must be running in order to start IZSME®. Java Sidecar listens on a port. The default port is 20202; if this port is not available, Java Sidecar will attempt to use the next 19 ports in succession until it finds an available port, going as far as 20221. You can specify a different range of ports by specifying the `javaListenerPort` property in the `pluginConfig.json` configuration file:

```
{  
  "javaListenerPort": "20202",  
  "javaVMArguments": [],  
}
```

```
"classPath": "../lib/jar/*",
"cache": {
[etc.]
```

The `javaListenerPort` property specifies "the first of 20 ports the Java Sidecar will try to listen on." So in the above example, the Java Sidecar will start with port 20202, and if that port is not available, will continue with the next port, until it finds an available port, if there is one in that group of 20 ports.

The `pluginConfig.json` file is located in `[zowe_instance_dir]/workspace/app-server/ZLUX/pluginStorage/com.rs.tep.queryhandler/pluginConfiguration/`. If you do not currently have a `pluginConfig.json` file, you will need to create it, as well as the directories leading to the file. Make sure that the App Server process has read access to this file.

**Note:** It is possible that two instances of Java Sidecar can be briefly running at the same time. As a result, there must be at least two ports available, within the 20-port range specified by `javaListenerPort`.

### Address space naming

By default, Java Sidecar will start with the same address space name as the App Server (Node.js process). For example, if you accept the default `ZOWE_PREFIX` (ZWE), both the App Server and the Java sidecar would have the name `ZWE1DS1` (for `ZOWE_INSTANCE=1`).

The Java Sidecar is started by the App Server process, so its name will always relate to the name of the App Server. If there are different values for `ZOWE_PREFIX` and `ZOWE_INSTANCE`, then App Server and Java Sidecar will have slightly different names. However, the root of the names will be the same (starting with `{ZOWE_PREFIX}{ZOWE_INSTANCE}`). See [Creating and configuring the Zowe instance directory](#) for more information about Zowe naming.

### Normal Login to IZSME®

After you have configured a default TEPS, the login screen will appear the next time you start IZSME®. The default database is listed under the **Log in to IZSME®** heading. This is the TEPS database that you specified when configuring LDAP.

You will need to provide the following information on the login screen:

#### Logon ID

Type the logon ID, such as a user ID, that was assigned to you to access IZSME®.

#### Password

If a password is required for this logon ID, type the password here.

### Performance tuning: number of rows per page

Adjusting IZSME® settings can improve performance, when reading large tables. The `maxRowsInPageRequest` setting lets you paginate the results of a query for faster response.

When IZSME® is reading a large table, a user may experience slow performance because of the large number of rows displayed per page. To reduce the delay, you can limit the number of rows that are displayed at any one time, by paginating the display. When IZSME® displays the results of a query, the status line at the bottom of the panel will indicate how many lines are displayed per page, and how many pages the entire search set contains. For example, it might say **Items per page 200** and **1 of 13 pages**, with an arrow button to retrieve the next 200 results.

### Changing the default page size

The default setting is 200 items per page. If you want to change the setting, ask your system administrator to do so, following these instructions.

The default setting of 200 rows per page overrides the number of rows specified in the view definition in Tivoli Enterprise Portal. Because IZSME® sorting and filtering is done on the server, large page sizes are much less necessary than in the Tivoli Enterprise Portal, where sorting and filtering are performed in the client, which can make it hard to find the data you need when the page size is smaller than the result set.

You can change this value by editing the `pluginConfig.json` file, which resides in `<IZSME_HOME>/ctds/teps_utils/config`. The file looks like this:

```
{
  "javaListenerPort": "20202",
  "javaVMArguments": [],
  "classPath": "../lib/jar/*",
  "cache": {
    "navigatorTree": {
      "cacheTimeoutSec": 300,
      "cacheCount": 15
    },
    "physicalTree": {
      "cacheTimeoutSec": 86400,
      "cacheCount": 15
    },
    "customTree": {
      "cacheTimeoutSec": 86400,
      "cacheCount": 15
    },
    "situationTemplates": {
      "validFor": 300000
    }
  },
  "memoryUsageDumpIntervalSec": 900,
  "resourceUsageDumpIntervalSec": 3600,
  "maxRowsInPageRequest": 200
}
```

The `maxRowsInPageRequest` setting specifies the maximum number of rows to be displayed per page. A value greater than zero (0) will limit the maximum displayed rows. If you want to display the entire result set in one page instead of limiting the number of rows displayed, specify a value of **-1**.

## Enabling a concise user activity log

You can configure IZSME® to generate a concise user activity log, with only the minimal information you need in order to diagnose problems quickly.

With concise user activity logging, you can tell what workspace a user visited; and which users have logged on. The resulting log presents the minimum necessary information so that the logs don't get too large. The user activity log can be controlled separately from other IZSME® logging.

The user activity log is configured in the `server.json` file:

```
<ZOWE_INSTANCE>/workspace/app-server/serverConfig/server.json
```

For security purposes, write access to this file should be limited to an administrator. For more information on the `server.json` file itself, see this [example server.json file](#).

To specify the level of severity or debugging verbosity, add the following lines:

```
"logLevels": {
  "com.rs.tep.queryhandler.logonattempts": 3,
  "com.rs.tep.queryhandler.useractivity": 3,
}
```

The minimum logging level for the user activity log is 3.

The following are examples of log entries for `logonattempts` and `useractivity`.

### Logger: `com.rs.tep.queryhandler.logonattempts`

Log level used: 3

Log message:

```
2021-05-05 23:29:55.969 <ZWED:22328> mshelby DEBUG
(com.rs.tep.queryhandler.logonattempts,logonAttemptsLogger.js:25) Logon attempt {
  user: 'sysadmin',
  izSMEInstanceId: 'hUE51Yghwfb0tBKnaSrw',
  tepsConfigurationId: '0904fd16-655a-4ec3-8ac2-e6c3ea8b70af',
  status: 'SUCCESS'
}
```

The message status can be SUCCESS, FAILED, or ERROR.

**Logger:** com.rs.tep.queryhandler:useractivity

Log levels used: 3 (first example), 4 (second example)

Log messages:

```
2021-05-05 23:33:13.311 <ZWED:7460> mshelby DEBUG
(com.rs.tep.queryhandler:useractivity,log-utils.js:99) User visits workspace {
  workspaceId: 'deec9cbb19',
  izSMEInstanceId: 'sV0v8001lsln1Y4wn1M0',
  navigatorPathString: 'Enterprise | z/OS Systems'
} 1620257593311.9
```

```
2021-05-05 23:33:13.312 <ZWED:7460> mshelby FINER
(com.rs.tep.queryhandler:useractivity,log-utils-impl.js:15) User visits workspace with
navigator path [
  { id: 'PHYSICAL_ENTERPRISE', type: 'ROOT', name: 'Enterprise' },
  { id: 'ed8cf67d@MVS', type: 'SYSTEMS', name: 'z/OS Systems' }
] 1620257593311.9
```

For more information on the log levels in Zowe, see [Log levels](#).

## Configuring security for IZSME®

IZSME® is often used to manage sensitive data. You should encrypt all of the communication channels IZSME® uses.

You should configure AT-TLS to provide security for communication channels between IZSME® and other entities including the Zowe® Node server and zssServer, and the Hub TEMS.

**Note:** The Node - JavaSidecar communication channel must be secured using mutual authentication AT-TLS, as described in [“Configuring mutual auth TLS to secure Node - JavaSidecar communications” on page 1145](#).

You can use RACF and role-based access control (RBAC) to set the authorization levels for groups of users (such as administrators and business users).

To secure communication between the Zowe Node Server and the zssServer, see the Zowe documentation under [Configuring ZSS for HTTPS](#). Secure communications between the Live CT/DB Adapter and your TEPS database(s) will use secure JDBC.

## Secure communications with IZSME

The following topics include details about creating specific AT-TLS rules to achieve secure communication, as well as using RACF to create groups with different levels of authorization, as a way of implementing RBAC. The examples are intended as a guide; you can organize your AT-TLS rules differently, depending on the requirements of your site. For more information on using AT-TLS with z/OS, see these topics:

- [Application Transparent Transport Layer Security](#) (diagram illustrating how AT-TLS works)
- [Application Transparent Transport Layer Security \(AT-TLS\)](#) (discussion of AT-TLS and applications)
- [Setting up AT-TLS](#)
- [Configuring and activating the policy agent \(PAGENT\)](#)

## Variables required for configuring security

These are the variables used to configure RACF, register certificates, and configure AT-TLS rules, which are described in the topics that follow.

Table 97: Variables	
Variable	Description
<ca_cert_label>	CA certificate label
<ca_cert_name>	Certificate name
<cert_label>	Internal certificate label
<country_code>	Two character alphabetic ISO country code
<htems_certificate_dataset>	Dataset with certificate, extracted from HTEMS
<htems_cert_label>	HTEMS certificate label
<htems_ip_address>	IP address of HTEMS
<htems_label>	HTEMS label, added to configuration items name to define the item's target
<htems_spipe_port>	HTEMS SPIPE port
<java_sidecar_port>	Value, specified as javaListenerPort in product environment
<location>	Location name
<organization>	Organization name
<organization_unit>	Organization unit name
<ring_name>	RACF Key Ring name
<server_owner_id>	User ID that runs Zowe®/IZSME
<state>	State or province
<yyyy/mm/dd>	Date (with format)

## Managing certificates for AT-TLS

Internal security requires creating or obtaining an X.509 certificate and connecting it to a keyring. You can customize these command templates and use them to create the certificates. For background, see [Configuring RACF](#) and [Authentication via client digital certificates](#).

### Creating a CA certificate

```
RACDCERT CERTAUTH GENCERT +
SUBJECTSDN(CN(<ca_cert_name>) +
OU(<organization_unit>) +
O(<organization>) +
L(<location>) SP(<state>) C(<country_code>)) +
KEYUSAGE(CERTSIGN) +
WITHLABEL(<ca_cert_label>) +
NOTAFTER(DATE(<yyyy/mm/dd>)) +
SIZE(2048)
```

### Creating a certificate signed by certificate authority

```
RACDCERT ID(<server_owner_id>) GENCERT +
SUBJECTSDN(CN(<cert_name>) +
OU(<organization_unit>) +
O(<organization>) +
L(<location>) SP(<state>) C(<country_code>)) +
KEYUSAGE(HANDSHAKE) +
WITHLABEL(<cert_label>) +
NOTAFTER(DATE(<yyyy/mm/dd>)) +
SIZE(2048) +
SIGNWITH(CERTAUTH LABEL(<ca_cert_label>))
```

### Creating a keyring

```
RACDCERT ID(<server_owner_id>) ADDRING(<ring_name>)
```

### Connecting certificates to the keyring

```
RACDCERT ID(<server_owner_id>) CONNECT(ID(<server_owner_id>) LABEL(<cert_label>)
RING(<ring_name>) DEFAULT)

RACDCERT ID(<server_owner_id>) CONNECT(CERTAUTH LABEL(<ca_cert_label>) RING(<ring_name>))
```

### Refreshing profiles

The changes take effect when you refresh the certificate profiles.

```
SETOPTS RACLIST(DIGTRING,DIGTCERT) REFRESH
```

### Configuring and registering certificates

For each TEMS that will be using SPIPE and AT-TLS to communicate with IZSME, you must extract the certificate from TEMS, place it into a dataset, register the certificate in RACF, and attach it to the keyring.

The certificate should be extracted in a binary format such as Distinguished Encoding Rules (DER, with the .der file extension) and transferred to a dataset for registration in RACF. See [Securing communications](#) and [Secure communication between components](#).

#### Attach certificate to RACF and to keyring

Customize this template to register the certificate in RACF and attach it to the keyring, so it can be used for AT-TLS communication.

```
RACDCERT CERTAUTH ID(<server_owner_id>) ADD(<htems_certificate_dataset>) TRUST
WITHLABEL(<htems_cert_label>)

RACDCERT ID(<server_owner_id>) CONNECT(CERTAUTH LABEL(<htems_cert_label>)
RING(<ring_name>))
```

Repeat this procedure for each TEMS that will be using SPIPE and AT-TLS with IZSME.

Finally, refresh the certificate profiles so that the changes will take effect.

```
SETOPTS RACLIST(DIGTRING,DIGTCERT) REFRESH
```

### Securing TEMS-to-IZSME communication

IZSME communicates with TEMS in two ways:

- Using ZSS, to extract TEMS data
- Using Java Sidecar, to extract SDA data

Both of these connections are covered by one rule, securing connection to a specific TEMS using an SPIPE port.

**Note:** This section must be repeated for each HTEMS that will be using SPIPE and AT-TLS to communicate with IZSME.

#### Configure the SPIPE port on HTEMS

The SPIPE port should be configured on HTEMS for external communications to make IZSME-TEMS connections with AT-TLS security enabled possible. For background, see [Communication between components](#).

#### Configure AT-TLS rules for TEMS-IZSME communication

Customize this configuration template and add it to your environment's TLS policy file. Add these rules to the rules you created previously for securing IZSME internal communications; these TEMS rules will use some of the same configuration items that were created in the internal rules.

```
TTLRule IUW_WTEP_AS_HT_CLIENT_<htems_label>
{
  RemoteAddrRef IUW_ADDR_HT_<htems_label>
  RemotePortRangeRef IUW_PORT_HT_<htems_label>
  Userid <server_owner_id>
  Direction Outbound
  Priority 4
  TLSGroupActionRef gAct1~IUW
```

```

    TTLSEnvironmentActionRef eAct1~IUW_AS_CLIENT
    TLSConnectionActionRef cAct1~IUW_AS_CLIENT_HT_<htems_label>
  }
  IpAddr IUW_ADDR_HT_<htems_label>
  {
    Addr <htems_ip_address>
  }
  PortRange IUW_PORT_HT_<htems_label>
  {
    Port <htems_spipe_port>
  }
  TLSConnectionAction cAct1~IUW_AS_CLIENT_HT_<htems_label>
  {
    HandshakeRole Client
    TLSCipherParmsRef cipher-IUW
    TLSConnectionAdvancedParmsRef cAdv1~IUW_HT_<htems_label>
    CtraceClearText On
    Trace 4
  }
  TLSConnectionAdvancedParms cAdv1~IUW_HT_<htems_label>
  {
    ResetCipherTimer 0
    SecondaryMap Off
    CertificateLabel <htems_cert_label>
  }
}

```

## Configuring mutual auth TLS to secure Node - JavaSidecar communications

Mutual authentication TLS must be configured using AT-TLS.

**Note:** Sites that have previously configured AT-TLS for a previous version of IZSME® will need to configure AT-TLS again, to enable mutual authentication TLS with version 1.1.8.

You can configure AT-TLS rules by customizing the following template and adding it to the environment's TLS policy file. Using one keyring for all of the AT-TLS rules will simplify the task of setting up secure communications:

```

TTLSRule IUW_JAVA_AS_SRV
{
  LocalAddr 127.0.0.1
  LocalPortRangeRef IUW_PORT_JAVA
  Userid <server_owner_id>
  Direction Inbound
  Priority 4
  TTLSGroupActionRef gAct1~IUW
  TTLSEnvironmentActionRef eAct1~IUW_AS_SRV
  TLSConnectionActionRef cAct1~IUW_AS_SRV
}
TTLSRule IUW_JAVA_AS_CLIENT
{
  RemoteAddr 127.0.0.1
  RemotePortRangeRef IUW_PORT_JAVA
  Userid <server_owner_id>
  Direction Outbound
  Priority 4
  TTLSGroupActionRef gAct1~IUW
  TTLSEnvironmentActionRef eAct1~IUW_AS_CLIENT
  TLSConnectionActionRef cAct1~IUW_AS_CLIENT
}
PortRange IUW_PORT_JAVA
{
  Port <java_sidecar_port>
}
TTLSGroupAction gAct1~IUW
{
  TTLS-enabled On
  Trace 4
  GroupUserInstance 1
}
TTLSEnvironmentAction eAct1~IUW_AS_CLIENT
{
  HandshakeRole Client
}

```

```

EnvironmentUserInstance 0
TTLSEnvironmentAdvancedParmsRef eAdv1~IUW
TTLSEnvironmentAdvancedParmsRef keyring~IUW
Trace 4
}
TTLSEnvironmentAction eAct1~IUW_AS_SRV
{
HandshakeRole ServerWithClientAuth
EnvironmentUserInstance 0
TTLSEnvironmentAdvancedParmsRef eAdv1~IUW
TTLSEnvironmentAdvancedParmsRef keyring~IUW
Trace 4
}
TTLSEnvironmentAction eAct1~IUW_AS_SRV
{
TTLSCipherParmsRef cipher-IUW
TTLSEnvironmentAdvancedParmsRef eAdv1~IUW
TraceClearText On
Trace 4
}
TTLSEnvironmentAction eAct1~IUW_AS_SRV
{
HandshakeRole Client
TTLSCipherParmsRef cipher-IUW
TTLSEnvironmentAdvancedParmsRef eAdv1~IUW
TraceClearText On
Trace 4
}
TTLSEnvironmentAdvancedParms eAdv1~IUW
{
ResetCipherTimer 0
SecondaryMap Off
CertificateLabel <cert_label>
}
TTLSEnvironmentAdvancedParms keyring~IUW
{
Keyring <server_owner_id>/<ring_name>
}
TTLSEnvironmentAdvancedParms eAdv1~IUW
{
ClientAuthType Required
CertValidationMode RFC5280
ApplicationControlled Off
SSLv2 Off
SSLv3 Off
TLSv1 Off
TLSv1.1 Off
TLSv1.2 On
}
TTLSCipherParms cipher-IUW
{
V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256
V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384
V3CipherSuites TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256
V3CipherSuites TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384
V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256
V3CipherSuites TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384
V3CipherSuites TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
V3CipherSuites TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384
}
}

```

## Role-based access control (RBAC)

Creating RACF user profiles and groups with different levels of authorization is a simple way of implementing RBAC for your IZSME® users.

**Note:** When you enable RBAC, make sure to provide access to the IZSME® plug-in for all roles that need access by editing the `allowedPlugins.json` file. For details on how to do this, see [Controlling app access for all users](#) in the Zowe® documentation.

In IZSME®, a **configuration** is a combination of a specific TEPS and HTEMS. After you start IZSME®, you can display the current configurations, which are displayed on the **Settings** panel, by clicking the gear icon:

## Settings

✔ Success! Connections to database and TEMS succeeded. ✕

🔍 Search Add new +

TEPS Database host	Primary TEMS Origin node	DB Username	DB Password	DB Port	DB Status	TEMS Status	ZOWE auth	LDAP
--------------------	--------------------------	-------------	-------------	---------	-----------	-------------	-----------	------

Under this heading, the panel lists all the configurations currently set up in your environment, with the specific TEPS database host, primary TEMS origin node, and other specifications.

The following example shows how IZSME® RACF groups can be set up for different roles:

- **IZSMEADM** - group for application administrators
- **IZSMEUSR** - group for application users

These groups represent the "roles" in Role Based Access Control. If you have two TSO IDs set up for yourself, add your "administrator" TSO ID to **IZSMEADM** and your "general user" ID to **IZSMEUSR**.

These are the general application profiles for all users (user IDs that are in both the **IZSMEUSR** and **IZSMEADM** groups):

- **ZLUX.\*.COM\_RS\_CTDS\_COMMON.\*\***
- **ZLUX.\*.COM\_RS\_MVD\_CTDS.\*\***
- **ZLUX.\*.COM\_RS\_DISCOVERY\_BASE.\*\***
- **ZLUX.\*.COM\_RS\_TEP\_QUERYHANDLER.\*\***
- **ZLUX.\*.COM\_RS\_OM\_WEBPORTAL.\*\***

These profiles are for application administrators only (**IZSMEADM** group):

- **ZLUX.\*.SVC.COM\_RS\_OM\_WEBPORTAL.CONFIG.PUT.\*\*** - API for changing configuration file
- **ZLUX.\*.SVC.COM\_RS\_TEP\_QUERYHANDLER.SECURECONFIG.PUT.\*\*** - API for changing configuration file
- **ZLUX.\*.SVC.COM\_RS\_OM\_WEBPORTAL.QUERYHANDLER.POST.JAVALOGLEVEL** - API for changing log level for JavaSidecar
- **ZLUX.\*.COR.\*\*** - Zowe API for administrators

## Enabling non-expiring sessions

You can set up a user ID to run IZSME® with a session that does not expire, or with a different timeout period from the default. This is useful, for example, if you want to have an overhead monitor in your data center that always shows IZSME® a high-level "data center health" display.

You can create a group of user IDs with a session timeout value different from the default. These IDs are specified by creating a file called `timeout.json` in the `serverConfig` folder in the Zowe™ instance:

```
<ZOWE_INSTANCE>\workspace\app-server\serverConfig\timeouts.json
```

For security purposes, write access to this file should be limited to an administrator. For for information, see an example `server.json` file.

This example illustrates the file format:

```
{
  "users": {
    "ab1234": 400,
    "abxyz": -1
  },
  "groups": {
    "ZOWEUSERS": 200
  }
}
```

When one of the specified user IDs logs in, the user's expiration time will be the value specified in the configuration file.

The values specified for users set the timeout period, in seconds; in the example above, the timeout period for user ab1234 would be 400 seconds. To set an unlimited (non-expiring) session, specify a value of **-1**. In the example, user abxyz will have a non-expiring session.

For more information on configuring Zowe, see [Configuring Zowe Application Framework](#).

## Getting started using IZSME

IBM Z Service Management Explorer is a web portal into your monitored environment.

### Architecture

#### Client

IBM Z Service Management Explorer is a browser-based user interface for viewing and monitoring your enterprise network.

#### Server

IZSME® connects to its application server, the Tivoli® Enterprise Portal Server (TEPS), which is a collection of software services that enable retrieval, manipulation and analysis of data from the monitoring agents on your enterprise. The TEPS connects to the Tivoli® Enterprise Monitoring Server (TEMS), which acts as a collection and control point for alerts received from the monitoring agents, and collects performance and availability data. The main, or hub, TEMS (HTEMS) correlates the monitoring data collected by agents and remote servers and passes it to the TEPS for presentation and evaluation.

#### Agent

Tivoli® Enterprise Monitoring Agents (TEMAs) are installed on the systems whose applications or resources you want to monitor. The monitoring agent collects the monitored data, and passes it to the TEMS to which it is connected. The client gathers the current values of the monitored properties, or attributes, and displays them in views. It can also test the values against a threshold and display an event indicator when that threshold is exceeded.

### Predefined tools

IBM Z Service Management Explorer comes with some predefined tools designed to help you get up to speed quickly.

Use these tools to begin monitoring and visualizing data immediately. Some definitions are ready to use; others are turned off until you activate them:

#### Workspaces

The Navigator is the panel that appears at top-left when you enter IZSME®. The workspaces that open when you click a Navigator item are predefined. They provide real-time visual data from managed systems, and they provide historical values when historical data collection has been configured. The predefined workspaces also provide a starting point for designing your own workspaces.

#### Queries

The predefined workspaces are populated with data from predefined queries. Creating your own queries from these predefined queries enables you to add or remove attributes, apply a sort order, and pre-filter the data.

#### Situations

The tests for conditions that you want to be alerted for are available in the predefined situations.

#### Managed system groups

The Tivoli® Enterprise Monitoring Server and every IBM® Tivoli® Monitoring product has at least one predefined managed system group, indicated by an asterisk at the beginning of the list name, such as \*NT\_SYSTEM for the Windows™ OS agent. When you assign one of these managed system groups to a situation, policy, historical collection configuration, or custom Navigator, all managed systems with that agent installed are selected.

## IZSME tour

This topic briefly introduces the Navigator, workspaces, and situations.

### Navigator

The Navigator shows the hierarchy of your network, with *enterprise* at the top, followed by the *operating platform*, etc.:

1. Open a operating platform level (for example, Linux™, UNIX™, Windows™, or z/OS® Systems) by clicking the right-arrow icon for the level you want to look at.  
Opening a level in the Navigator reveals the next level in that branch.
2. Open the next operating platform level to see the names for the systems running on that platform.
3. Open any system to see the monitoring agents installed on that system for monitoring applications and resources; and, below agents, the elements, or attributes, for which the agent can collect data.

**Tip:** You can close the tree entirely by clicking the arrow icon to the left of the Enterprise item.

### Workspaces

Every item in the Navigator has a default workspace that opens when you select it. Multiple workspaces can also be accessed from a single navigator item. When you start IZSME, the top item in the Navigator, Enterprise, is selected and the Situation Event Console is displayed.

Select another Navigator item by clicking the icon for the operating platform, or the name of the platform itself.

The workspace for the operating platform you selected replaces the one previously displayed.

The Navigator and workspaces allow you to examine your managed enterprise from the highest level to the most detailed.

### Situations

In addition to providing a map of your enterprise, the Navigator can alert you to changing conditions. When a condition changes, the associated item is marked with an icon representing each condition: Fatal, Critical, Minor, Warning, Harmless, Informational, or Unknown. The Navigator places one of these icons, called an *alert indicator* or *event indicator*, at each level of the hierarchy, so you can see an alert even if a Navigator branch is closed.

IZSME runs tests called *situations* on systems where monitoring agents are installed. When the conditions of a situation have been met, an event occurs and an event indicator is displayed over the applicable items in the Navigator.

## Using the Navigator

The Navigator provides a hierarchical, high-level overview of the status of your monitored environment. The Situation Event Console is a view that serves as the starting point for taking action to address situations on your managed systems.

### Navigator overview

The Navigator is the top-left pane in IZSME®, which allows you to drill down and display information on the parts of your environment you want to examine. Initially, the Navigator shows your entire enterprise, with the Situation Event Console to the right.

### Types of Navigator views

#### Physical view

The default Navigator view is Physical and shows the hierarchy of your monitored enterprise. As new managed systems come on- or offline, the Physical view changes accordingly.

### Custom views

Your configuration may also have custom views. These views are selectable from the Navigator toolbar. They display event indicators (described below), but unlike the Physical view, custom views can be edited.

### Logical view

IZSME® initially has one custom Navigator view called Logical with a single Navigator item for Enterprise.

### Workspaces

A workspace is a working area (pane) of IZSME®. Selecting an item in the Navigator opens its default workspace.

## Situation event indicators

When a situation becomes "true," an event indicator (a small colored icon) appears next to the corresponding Navigator icon.

Event indicators are classified by severity, from highest to lowest: Fatal, Critical, Minor, Warning, Harmless, Informational, or Unknown. As you move up the Navigator hierarchy, multiple events are consolidated to show only the indicator for the event with the highest severity.

Click on an event indicator to open a listing of the situations that are true for the Navigator item and any branching items. You can display additional columns by clicking on a row, then using the arrow keys to move to the left and right.

Acknowledged	The situation event has been acknowledged.
Expired	The acknowledgement has expired and the situation is still true.
Reopened	The acknowledgement was canceled before it had expired and the situation is still true.
Stopped	The situation has been stopped.
Error	The situation is not functioning properly.
Status Unknown	The monitoring server detects that an agent is offline. The agent might have been taken offline intentionally, there might be a communication problem, or the agent or the system it is running on might have stopped or be failing. The situation flyover listing on this icon shows *STATUS_UNKNOWN, which is not actually a situation, but the notation for a problem on the managed system. Consider recycling the agent.

## Understanding situation events

IZSME® and the products in your environment come with a set of predefined situations. You can use these unmodified or use them as templates to create your own custom situations.

### Situation formula

Situation formulas consist of one or more expressions. For example, a situation that checks for free disk space below 20% has an expression that uses the Logical Disk attribute "Free Megabytes" and reads as `Free Megabytes < 20`. The situation will read data samples taken at the managed system at set intervals, such as once a day for the disk space situation in our example.

Other situations might be more elaborate, such as the predefined situation called Bottleneck Memory. It embeds two situations: one that tests for excessive memory paging activity (>100 pages per second), and one that tests for processor time over 70%. If both of these situations are true at the same time, the Bottleneck Memory situation becomes true and opens an event.

### Situation event indicators

When a situation is associated with a managed system, it also has a state: Fatal, Critical, Minor, Warning, Harmless, Informational, or Unknown. As you move up the Navigator hierarchy, multiple events are consolidated to show only the indicator of the highest severity. Go to the lowest level of the hierarchy in the Navigator and you see the event indicator over the attribute category for which it was written.

### Situation Event Console

The Enterprise Status workspace includes the Situation Event Console view.

When there are more than 100 situations, the Situation Event Console will be paginated, instead of displaying the entire list of situations in one scrollable list. At the bottom of the Situation Event Console, the number of items per page will be displayed, along with an indicator of how many pages of situations are

available; for example, **1 of 2 pages**, with arrow buttons that let you bring up the next or the previous page. You can change the **Items per page** to display 100, 150, or 200 situations; the default is 100. Click the **Items per page** field, then select the number of situations per page. Sorting is unaffected by the number of situations displayed. Regardless of the setting, the entire list of situations will be sorted.

### Event flyover list

In the Navigator, you can click the event indicator icon to the left of a list item (for example, the list item for your managed systems might be **z/OS Systems**), to open a listing of open situations, with this information for each:

- Event state
- Situation name
- Name of the system on which the event occurred
- Event timestamp
- Display item, if one was specified
- Situation status

You can click on an event in the list, then use the right-arrow key to display columns to the right of the ones shown initially.

To display the **Situation Event Results** workspace, right-click on a situation.

### Situation Event Results workspace

The **Situation Event Results** workspace shows the values of the attributes at the time when the situation first became "true" (Initial Situation Values) and at the present time (Current Situation Values). The **Expert Advice** panel at lower-right displays advice for the situation.

Expert advice is currently available only for product-provided situations. The advice is not editable, and when you create a new situation or use a situation created at your site with Tivoli Enterprise Portal, the advice will not be available in the **Expert Advice** panel.

## Using workspaces

The workspace is the working area of IZSME®, divided into panes to show different views.

You can start monitoring activity and system status immediately with the predefined workspaces, or you can create your own workspaces to look at conditions specific to your site.

### Workspace characteristics

Every Navigator item has at least one predefined workspace that you can open. Every workspace characteristics such as editable properties and views.

### Views

A view is a pane, or frame, in the workspace containing a chart or table showing data from one or more monitoring agents. Other types of views such as the topology view and graphic view can give a broader overview of the network. Specialized view such as the browser view and terminal view are also available. You can increase the number of views in a workspace by splitting a view into two separate views.

The data for a table, chart, or relational table-based topology view is chosen by the query it uses. Collectively, they are called *query-based views*. The query specifies the attributes to include in the view. Although each view uses one query, you can add more views to the workspace, and each can use a different query. The queries can be for different monitoring agents, including those for the Tivoli® Enterprise Monitoring Server for showing information that is common to your monitored environment (such as all the managed systems and all the situation events). You can also include queries of JDBC or ODBC data sources by writing custom SQL queries.

### Links

The link feature enables you to define a link from one workspace to another. Then you can quickly jump to a related or more detailed workspace to investigate system conditions.

The simplest type of a link originates from the Navigator item: When you right-click that Navigator item, the pop-up menu shows the defined links for the item. Select one to open the linked workspace.

A more specific link originates from a table or from a chart data point to another workspace. Information from one of the attributes in the selected row, bar, pie segment, or plot point is used to determine the content of the target workspace.

You can also define more complex links and use the predefined links that come with your IBM® Tivoli® Monitoring product.

## Navigator level

The monitoring agents available for reporting in a workspace are those assigned to that branch of the Navigator. If you are not sure which monitoring agents are included, do one of the following:

- Expand the branch of the Navigator
- Right-click the Navigator item and select Properties to see which managed systems are assigned.
- Open one of the workspaces at the enterprise, platform, or system level of the Navigator Physical view

This same principle applies to attribute groups. The lowest level of the Navigator Physical view, for example, is the attribute level. The views you can show for the workspaces at that level can draw only from the attribute groups represented by that level. If you were to build a workspace for the  **Disk** Navigator item, for example, you could create a chart with data from the **Logical Disk** attributes and another with data from the **Physical Disk** attributes.

## Refreshing a workspace

You can refresh the data that is displayed in the workspace on demand or at a set interval.

### About this task

IZSME® receives monitoring data from monitoring agents whenever you open a workspace that includes query-based views. The default setting for most predefined workspaces is *On Demand*, which means retrieved data remains static until you refresh manually.

### Procedure

- To refresh a workspace manually, click the refresh icon . To set a refresh interval, click the menu icon (the three-dot icon at top-right), and select **Refresh Every** and one of the intervals: 30 seconds; 60 seconds; 5 minutes; 15 minutes; 60 minutes; or On Demand. **Note:** You can set the refresh interval, but the setting will be active only for the currently opened IZSME® instance. In addition, be aware that refreshing the workspace creates a certain amount of network traffic. The refresh requests travel to the hub monitoring server and then to the monitoring agent. The information is returned by the same route.

### What to do next

Be aware that the more frequent the automatic refresh, the more network traffic you create. These requests travel from the portal client to the portal server and to the hub monitoring server before reaching the monitoring agent. They might also pass through a remote monitoring server to reach the monitoring agent. The information is returned by the same route.

## Setting a time span to display

IZSME® can display data for a period of hours, days, weeks, months, or years, in addition to showing real time data. If historical data collection has been configured for the managed systems you are using, you can display historical data.

### About this task

If historical data collection has been enabled, the **Specify Time Span for Query** icon  is on the left, just under the title bar in each view (pane) in the current workspace. When you click the icon, you can specify the time span in any of three ways:

- Real time
- Real time plus Last *n* Hours (maximum 48)
- Last *n* Hours/Days/Weeks/Months/Quarters/Years (maximum 32 years)

The **Real time plus Last** option is enabled for the bar chart, plot chart, and area chart. If you are working with tabular data, this option is not available.

The **Cancel** button discards any changes and closes the **Choose the time span** pane.

The **Apply** button applies your settings.

Any changes you have made to the settings will be reset (discarded) when you leave the current workspace.

For more information, see [Overview of historical data collection and reporting](#).

## Using workspace filters

Workspace filters let you narrow down the information displayed in the **Enterprise Networks** view.

### Procedure

1. Log in and open IZSME®.
2. From the **View** menu in the Navigator at top-left, select the **Enterprise\_Networks** navigator tree.
3. From the **Enterprise Networks Navigation** view at the top-left, select any row containing text that ends with **Find**, such as **Enterprise Connections Find**. Click on the icon to the left of the name, or right-click on the name itself and select **Link to > Enterprise Connections Find** (or the name you have selected), to display the **Workspace filters** panel.
4. Fill in at least one filter value. The asterisk (\*) that initially appears allows you to specify a partial search term, with the asterisk serving as a wildcard. For example, if you wanted to search all System IDs beginning with R, you would enter R\*.
5. Submit the dialog by selecting **Apply**. Data will be displayed in the workspace views using the filters you entered.

## Launching directly to a workspace

An application can launch IZSME® and go directly to a workspace you are interested in. This saves time, by allowing you to go directly to a workspace you use frequently, instead of having to navigate to the workspace after you log into IZSME®.

### Procedure

1. Select the link, button, or other control that launches IZSME® from the application.
2. If prompted, log into Zowe with your username and password. IZSME® will open automatically.
3. Depending on the configuration of your site, you may see the following message: **External Launch: There is more than 1 TEPS configuration match found for launch data provided. Choose any configuration to proceed.** Select from the **Server** drop-down menu above the message, choose the TEPS you want to use, and complete the login procedure with your IZSME® username and password. You will be taken directly to the workspace that has been set up to launch from your application, or to a navigation tree from which you can choose the path to the workspace.

## Launching directly to a Situation Event Result workspace

Applications can launch IZSME® and go directly to a Situation Event Result workspace you are interested in, instead of requiring you to navigate there each time.

### About this task

If you have an application outside IZSME®, for example, Service Management Unite, that receives situation event data from OMEGAMON, the application can be coded to launch IZSME® and go straight to that Situation Event Results workspace.

The workflow is similar to right clicking on a situation in the IZSME® situation event console, then selecting a situation from the list that appears.

### Procedure

1. Select the link, button, or other control that launches IZSME® from the application.
2. The direct launch can be set up to go to the Zowe desktop or to go directly to IZSME®. If prompted, log into Zowe with your username and password; IZSME® will start automatically.
3. Depending on the configuration of your site, you may see the following message: **External Launch: There is more than 1 TEPS configuration match found for launch data provided. Choose any configuration to**

**proceed.** Select from the **Server** drop-down list above the message, choose the TEPS you want to use, and complete the login procedure with your username and password for IZSME®. Applications can be configured to launch IZSME® at one specific situation, or to give you choices based on different views (for example, **Physical** or another view defined by your administrator). In the latter case, the **Select situation** panel will be displayed; this lets you navigate to a situation. The panel has columns for Severity, Impact, and other criteria you can use to determine the situation you want to view. Once you have selected the situation, the **Navigator** will show the navigation tree down to the situation displayed, and the **Initial Situation Values**, **Current Situation values**, **Command View**, and **Expert Advice** panels will be displayed.

## Take Action from the Navigator, Situations and Workspaces

**Take Action** lets you enter a predefined command and run it on any system in your managed network, in response to conditions monitored by the OMEGAMON products in your environment.

Predefined actions might include canceling a Db2 thread, purging CICS tasks, starting or stopping an MQ channel, or other maintenance actions frequently taken to keep systems running.

Some monitored applications provide predefined **Take Action** commands. You can customize those commands in Tivoli Enterprise Portal and create command definitions of your own, then invoke them on the system you choose. Customized Take Action commands cannot be created in IZSME®, but any customized Take Action commands you have created in Tivoli Enterprise Portal will be accessible in IZSME®.

You can access **Take Action** from the **Navigator**, the **Situation Event Console**, or a workspace view, by right-clicking an item in the **Navigator**, a situation in the **Situation Event Console**, or a task in a workspace, then selecting **Take Action**.

Choose one of the available predefined actions from the **Action to execute** field. This is the action that will be sent to the destination system(s).

The **Command** field shows the actual command this action will send to the system.

Some actions will have an **Arguments and values** section, with one or more argument fields. These allow you to enter a value, such as a process ID, to be used with the command sent to the destination system(s). For some commands, there will be several argument fields that allow you to specify values for the arguments to be entered along with the command.

In the **Destination systems** field, you can choose one or more of your managed systems, and have the command sent there.

After you submit the action, the **Action status** panel shows the progress and outcome of the action:

- **Destination:** The system(s) to which the command was sent.
- **Status:** The outcome of the command (complete, in progress, failure, etc.)
- **Return code:** The return code. A code of 0 indicates success.
- **Result:** A message describing the outcome, for non-zero (failure) return codes.

If there are no actions available, either predefined or custom created at your site, the **Take Action** panel will be empty.

### Purging CICS tasks

If you are using OMEGAMON for CICS, you can navigate to the Transaction Analysis workspace view and purge (including force purge) one or more CICS tasks.

From the Navigator, open a CICS region, then select **Transaction Analysis**. A list of tasks appears in the workspace view.

#### Using Purge selected tasks

You can select one or more tasks, right-click, then choose **Purge selected task(s)**. A confirmation box will appear, from which you can proceed with the purge (PURGE TASK) and, optionally, specify that you want to perform a force purge. Keep in mind that forcing the purge will purge the tasks even if data integrity cannot be maintained. Normally, it's best to try a PURGE, which will only purge if data integrity can be maintained, before performing a force purge.

#### Using Take Action to purge tasks

You can also use **Take Action** to purge CICS tasks. From **Transaction Analysis**, select a task (**Take Action** can only be used with one task), right-click, then choose **Take Action**. The **Take Action** panel will appear; in the **Action to execute** field, select **Purge Task**.

## Troubleshooting

This section contains information on common problems and solutions related to installing and configuring IBM Z Service Management Explorer.

### Issue with plug-ins

The information below describes what to do when a plug-in cannot be found.

### Issue with nodeServer.sh

The information below describes an issue with the nodeServer.sh shell.

#### Node: not found

You may receive this message while running `./nodeServer.sh`.

**Solution:** Add `NODE_HOME` to your `.profile` or in your environment.

### Issues with Zowe Login

The topics below describe issues that may occur when logging into Zowe.

#### Authentication failed for 1 types. Types: ['zss']

Possible causes include the following:

- Wrong username/password
- zssServer is not running. Contact your Zowe administrator.
- ZIS server is not running. Contact your Zowe administrator.
- Configuration/security problems relating to zssServer and ZIS server. Contact your Zowe administrator.

#### Login fails with no error message, original login reappears.

This is unlikely to happen when you first point your browser at the Zowe web server, but can happen if your Zowe desktop has been up for a while and the session timed out.

It can also happen if your Zowe server is using a certificate that is not considered secure by your browser. Some browsers will periodically force you to re-approve certificates that the browser considers insecure. Check that the Zowe web server is running and that your browser is accepting the Zowe certificate. The easiest way to do this is to "hard" reload the page (Ctrl-Shift-R), so it will not use the browser cache. If the page fails to reload, that means your web server is not available to your browser.

### Gathering other log and output data

The JavaScript console and Zowe application server logs are useful sources of diagnostic information.

JavaScript output is accessed differently in each of the supported browsers:

- For Chrome, see [How to Open Google Chrome's JavaScript Console](#).
- For Firefox, see [Debugging JavaScript](#).
- For Microsoft Edge, see [Console](#).
- For Safari, see [Safari Developer Tools](#).

The Zowe log verbosity determines how much detail is shown in the logs. Verbose logging creates large log files and may slow down performance, but provides more information that can help you troubleshoot a problem.

For information about the Zowe logs, see [Log output from the Zowe Application Server](#). For information on setting the log verbosity, see [Logging verbosity](#).

#### “Items per page” may differ from the number of bars in Bar chart

"Items per page" reflects the number of rows returned. The number of bars displayed reflects the number of unique "formatted category axis values" were in the returned result. If the "items per page" differs from the

number of bars in the chart, consider adding filtering, or using a plot chart with Attribute(s) across multiple rows.

In some cases, maximizing your IZSME view, or zooming out (Ctrl-minus), the “items per page” indicator will not appear, when all the bars fit in the chart view.

## IZSME® Messages

All messages have a severity code printed as the last character of the message ID.

Severity Code	Description
I	Information message. No user action required.
W	Warning message. Results may not be as expected.
E	Error message. Some may be user-correctable, read the User Response to determine the course of action.

**IUWA001E: Could not parse `queryhandler.data (/tepUser?userId=<username>)` response. `HttpReturnCode: <code>`. `Response: <body>`**

### Explanation

An unexpected error occurred during parsing response.

### User response

Contact your system administrator.

**IUWA002E: Error occurred while checking that userID `<username>` exists in CT/DB. `HttpReturnCode: <code>`. `Response: <body>`**

### Explanation

An unexpected error occurred during parsing response.

### User response

Contact your system administrator.

**IUWA003E: Incorrect username or password**

### Explanation

An incorrect username or password was provided when attempting to logon to IZSME.

### User response

Provide correct username and password.

**IUWA004E: User ZOWE user id: `<zowe_user_id>`, IZSME user id: `<izsme_user_id>`, `tepsConfigurationId: <teps_configuration_id>` failed to run SQL1 query `<sql1_query>` to get data from table `<table_name>`. Table requires one of the following affinities: `<table_affinities>`, but affinities allowed for user are `<user_affinities>`**

### Explanation

User cannot run SQL1 query for a certain table, because the table's application is not in the list of allowed applications for `userProblem` requesting allowed affinities for the user.

### User response

Contact your system administrator to change the allowed applications list for this user.

## IUWA004W: RBAC error. You have no permissions

### Explanation

RBAC is enabled. You have no permissions to execute an action or view data.

### User response

Contact your system administrator or check your RBAC profile settings.

## IUWA005E: Failed to retrieve configuration. Reason: <reason>

### Explanation

Problem retrieving TEPS configuration from JSON. Possible reason: Failed to decrypt password with the given key set.

### User response

Contact IBM software support.

## IUWA009I: Logon attempt { user, izSMEInstanceId, sessionID, tepsConfigurationId, status, userToken }

### Explanation

Information about logon attempts. Valid status values: SUCCESS, FAILED, ERROR. The following is an example of the message:

```
2021-11-10 14:01:04.504 <ZWED:42144> juser INFO
(com.rs.tep.queryhandler:logonattempts,logonAttemptsLogger.js:19) IUWA009I Logon attempt {
  user: 'sysadmin',
  izSMEInstanceId: 'K270f0uSK0JZ0XHgvdXE',
  sessionID: 'Uow68usK7kk-3BIPe77ods7I57E3BYC9',
  tepsConfigurationId: '0904fd16-655a-4ec3-8ac2-e6c3ea8b70af',
  status: 'SUCCESS',
  userToken: '913932'
}
```

### User response

None required.

## IUWAF001E: Fail while requesting user affinities from service "queryHandler.data"

### Explanation

Problem requesting allowed affinities for user from queryHandler dataservice.

### User response

Contact IBM software support.

## IUWAF001W: Not found affinities for product <product>

### Explanation

Problem requesting corresponding affinities for product.

### User response

Contact your system administrator.

## **IUWAF002W: Failed to get user affinities**

### **Explanation**

Problem requesting allowed affinities for user.

### **User response**

Contact IBM software support.

## **IUWC001E: Cannot connect to database. Check configuration and try again later.**

### **Explanation**

An incorrect database address, port, username or password was provided in configuration. This message appears during login.

### **User response**

Ensure that you have provided a valid database address, port, username and password.

## **IUWC001W: Wrong configuration for 'ctds' dataservice**

### **Explanation**

An incorrect database address, port, username or password was provided in configuration. This message appears during login to IZSME.

### **User response**

Ensure that you have provided a valid database address, port, username and password.

## **IUWC002E: Data for TEMS testing not correct**

### **Explanation**

An incorrect Tivoli Enterprise Monitoring Server (TEMS) address or port was provided in the configuration.

### **User response**

Ensure that the TEMS address and port are valid.

## **IUWC002W: Error occurred while parsing ctds response body. Body: <body>**

### **Explanation**

Unexpected error during parsing response.

### **User response**

Contact your system administrator.

## **IUWC003E: Check the data, username and password for the database.**

### **Explanation**

An incorrect database address, port, username or password was provided in configuration. This message appears during a test of the Db2 connection.

### **User response**

Ensure that the database address, port, username and password are valid.

**IUWC003W: CTDS respond with error: <error>****Explanation**

Unexpected error during parsing response.

**User response**

Contact your system administrator.

**IUWC004E: CTDS dataservice is configured wrong. Check it and try again.****Explanation**

Incorrect TEMS address or port was provided in configuration.

**User response**

Ensure that you have provided a valid TEMS address and port.

**IUWC005E: Could not connect to database. Reason: <reason>****Explanation**

An incorrect database address, port, username or password was provided in configuration. Key set (public-private pair and AES-256) is not generated or was modified.

**User response**

Ensure that the database address, port, username and password are valid.

**IUWC005W: Error saving configuration <err>****Explanation**

Configuration was not saved successfully.

**User response**

Contact your system administrator.

**IUWC006I: Current log level is <response>****Explanation**

System shows the configured log level.

**User response**

None required.

**IUWC007E: Cannot get log level message <error>****Explanation**

Incorrect call getLogLevel method or cannot get log level message.

**User response**

Ensure that RBAC is set to **true**.

**IUWC007W: Error parsing request body to TepsConfiguration****Explanation**

Configuration was not parsed successfully.

**User response**

Contact your system administrator.

**IUWC008E: Cannot set log level message****Explanation**

Incorrect call setLogLevel method or cannot set log level message.

**User response**

Check parameters and ensure that RBAC is set to **true**.

**IUWC009I: Set log level successfully <response>****Explanation**

Set new log level and show result.

**User response**

None required.

**IUWC009W: Error retrieving configuration <err>****Explanation**

The configuration was not retrieved successfully.

**User response**

Contact your system administrator.

**IUWC010W: Configuration path is not set****Explanation**

The configuration path has not been specified.

**User response**

Contact your system administrator.

**IUWC011W: Configuration file does not exist****Explanation**

The configuration file has not been created.

**User response**

Contact your system administrator.

**IUWC012W: Problem parsing configuration file <parseError>****Explanation**

An error occurred parsing the configuration file.

**User response**

Contact your system administrator.

**IUWC013W: TEPS configuration with id: <id> not found****Explanation**

The configuration has not been specified.

**User response**

Contact your system administrator.

**IUWC015W: Database type <dbType> is not supported****Explanation**

The specified database type is not supported.

**User response**

Contact your system administrator.

**IUWC016W: <dbType> database is not configured properly. Configuration id <tepsConfigurationId>****Explanation**

The database is not configured properly.

**User response**

Contact your system administrator.

**IUWC017E: Failed to prepare decrypted AES-256 key. Reason: <error>****Explanation**

An error occurred generating keys during installation, or the private key file was replaced.

**User response**

Contact your system administrator.

**IUWD001E: Error on getting SQL queries. No queries for execution.****Explanation**

There are no queries that can be executed.

**User response**

Check to see if there are queries assigned to the table.

**IUWD002E: Error occurred while getting SQL queries. Omit this error and continue with other requests. Error message: <error>.****Explanation**

Error occurred getting SQL queries.

**User response**

None required.

**IUWD003E: Error occurred while fetching the table data. Omit this error and continue with other requests. Error message: <error>.**

**Explanation**

Error occurred fetching data.

**User response**

None required.

**IUWD004W: Empty REQUEST.KFWQUERY.app1, <productCode> product is used instead.**

**Explanation**

Application for current request is empty, other suitable product code will be used.

**User response**

None required.

**IUWE001E: TOKEN function call failed: tokens = <tokens>, delims = <delims>, token=<token>.**

**Explanation**

Token string contains fewer tokens than token index.

**User response**

If you recently changed an expression manually, review the expression to check for accuracy. Otherwise, contact your system administrator.

**IUWE002E: Check this TOSTR function call: value= <value>, radixAttr = <radixAttr>.**

**Explanation**

Function TOSTR is used for converting numbers to strings. Value type is not a number.

**User response**

If you recently changed an expression manually, review the expression to check for accuracy. Otherwise, contact your system administrator.

**IUWE003E: Non-string argument of TOINT function: <value>**

**Explanation**

Function TOINT is used for converting strings to numbers. Value type is not a string.

**User response**

If you recently changed an expression manually, review the expression to check for accuracy. Otherwise, contact your system administrator.

**IUWE004E: No type defined for node. id: <id>, name: <name>**

**Explanation**

Missing NODE type in tree path. Problem in tree topology.

**User response**

Contact your system administrator.

**IUWE006E: ReplaceVars: Cannot replace variable <varName> in string: <str>****Explanation**

Variable from expression is not found.

**User response**

If you recently changed an expression manually, review the expression to check for accuracy. Otherwise, contact your system administrator.

**IUWE007E: <Expression> <EvalResult> <EvalError>****Explanation**

Unexpected error during expression evaluation.

**User response**

If you recently changed an expression manually, review the expression to check for accuracy. Otherwise, contact your system administrator.

**IUWE008E: Error checking link availability: <error>****Explanation**

Unexpected error during link availability check.

**User response**

If you recently changed an expression manually, review the expression to check for accuracy. Otherwise, contact your system administrator.

**IUWI001E: Required installation parameter not found: <Parameter\_Name>****Explanation**

Required parameter was not set while calling installation jobs.

**User response**

Provide requested parameter <Parameter\_Name>.

**IUWI002E: Installation folder does not exist: <Folder\_Name>****Explanation**

The folder that was passed as the parameter for installation does not exist.

**User response**

Check the path and provide the correct value, or create the folder shown in the error message text.

**IUWI003W: Optional parameter '<Parameter\_Name>' not set, using default value '<Value>'****Explanation**

An optional parameter was not provided; the default value is being used.

**User response**

None required, but check to see if this parameter should be specified instead of the default value.

**IUWI004E: Wrong parameter format. Correct format: <Format>****Explanation**

The installation parameter failed a format check.

**User response**

Review the parameter's format and correct so that it uses the format shown in the message.

**IUWI005E: Errors found during installation configuration. Exiting****Explanation**

Errors occurred during configuration verification.

**User response**

Review the log and address installation errors.

**IUWI006E: Unknown/Unsupported version of ZOWE: <ZOWE\_Version>****Explanation**

The ZOWE version number provided is not currently supported, or was not registered at installation.

**User response**

Review the version number and contact IBM software support if necessary.

**IUWI007E: Target folder already contain unpxed IZSME files. Actions: <Actions\_Description>.****Explanation**

The target folder for unpax already contains IZSME® files.

**User response**

Follow the actions description provided in the message, or delete old IZSME® files from the previous installation.

**IUWI008E: Found old Zowe version, major <IUW\_SERV\_ZOWE\_H\_VER> , minor <IUW\_SERV\_ZOWE\_M\_VER>. Supported versions: Zowe <ZOWE\_VER> and above. If you wish to use an earlier version, results will be unpredictable.****Explanation**

The indicated Zowe version is not supported.

**User response**

Review the provided version number. Contact IBM Software Support if necessary.

**IUWI009I: Found javaHome property in pluginConfig.json. Checking Java executable <PLUGIN\_JAVA\_HOME\_EXECUTABLE>.****Explanation**

Displays java home property.

**User response**

None required.

**IUWI010W:** javaHome property isn't specified in pluginConfig.json.

**Explanation**

The javaHome property is missing.

**User response**

Add this property to the pluginConfig.json.

**IUWI011I:** ZOWE\_JAVA\_HOME environment variable is specified. Checking Java executable <ZOWE\_JAVA\_HOME\_EXECUTABLE>.

**Explanation**

Informational message.

**User response**

None required.

**IUWI012W:** ZOWE\_JAVA\_HOME environment variable isn't specified..

**Explanation**

This variable is missing.

**User response**

None required. For more information on the Zowe environment, see [Installing Zowe on z/OS](#).

**IUWI013I:** JAVA\_HOME environment variable is specified. Checking Java executable <ZOWE\_JAVA\_HOME\_EXECUTABLE>.

**Explanation**

Informational message.

**User response**

None required.

**IUWI014W:** JAVA\_HOME environment variable isn't specified..

**Explanation**

This variable is missing.

**User response**

None required. For more information on the Zowe environment, see [Installing Zowe on z/OS](#).

**IUWI015I:** Checking 'java' in PATH.

**Explanation**

Informational message.

**User response**

None required.

**IUWI016E: Failed to find Java.**

**Explanation**

Failed to find Java in PATH.

**User response**

Check to verify that Java exists in PATH.

**IUWI017I: Java information: \$(<\$JAVA\_EXECUTABLE\_TO\_CHECK\_VERSION> version).**

**Explanation**

Java version information is displayed.

**User response**

None required.

**IUWI018W: Version for Java <JAVA\_EXECUTABLE\_TO\_CHECK> is not supported. Required version 1.8 and higher.**

**Explanation**

The current Java version is not supported.

**User response**

Install Java 1.8 or later.

**IUWI019I: Java version \$(<\$JAVA\_EXECUTABLE\_TO\_CHECK\_VERSION> version) is supported.**

**Explanation**

Java version information is displayed.

**User response**

None required.

**IUWI020W: Unable to find java executable at \$(<\$JAVA\_EXECUTABLE\_TO\_CHECK\_VERSION> version).**

**Explanation**

Java executable is missing.

**User response**

Contact your system administrator.

**IUWI021I: Starting generate security keys**

**Explanation**

Security keys are being generated.

**User response**

None required.

## **IUWI022E: Specified path <path\_value> is incorrect**

### **Explanation**

Install process cannot be run with incorrect <path\_value>.

### **User response**

Correct the installation path and run the install process again.

## **IUWI023E: Error occurred while trying to create subdirectories for <key\_path>**

### **Explanation**

Install process could not create subdirectories for <key\_path>.

### **User response**

Make sure the installing user ID has permissions to create the subdirectories for key\_path.

## **IUWI024E: Could not generate key string. Key was not initialized.**

### **Explanation**

Install process could not generate key string..

### **User response**

Correct the key\_path and run the install process again.

## **IUWI025E: Error occurred while writing key into the <key\_path>**

### **Explanation**

Install process could not generate key string..

### **User response**

Check that the installing user ID has write permission for the file and path and that the file has not been opened by another process.

## **IUWI026E: Error occurred while encrypting AES-256 key using public key.**

**<error> <error>**

### **Explanation**

AES-256 key could not be encrypted using public key.

### **User response**

Contact your system administrator.

## **IUWI027I: Key generation completed successfully!**

### **Explanation**

Information message.

### **User response**

None required.

### **IUWI027W: Unknown option: <option>**

#### **Explanation**

The option supplied is unknown for install script.

#### **User response**

Check the installation instructions for the valid options.

### **IUWI028I: Start setting permissions <CHMOD\_ACCESS\_PERMISSIONS> for key files.**

#### **Explanation**

Access permissions will be changed for key files.

#### **User response**

None required.

### **IUWI029I: Finish setting permissions.**

#### **Explanation**

Access permissions have been changed for key files.

#### **User response**

None required.

### **IUWI030E: Error occurred while generating security keys.**

#### **Explanation**

An error occurred during security key generation.

#### **User response**

Contact your system administrator.

### **IUWI031I: Option – `forceGenerateKeys` specified. Key files will be overwritten.**

#### **Explanation**

Current key files will be overwritten.

#### **User response**

None required.

### **IUWI032E: Some keys already exist. Changing keys will mean all already encrypted passwords cannot be decrypted. If you want to overwrite keys use -- `forceGenerateKeys` option..**

#### **Explanation**

Conflicts exist with current key files.

#### **User response**

If you want to overwrite keys, run install process with --`forceGenerateKeys`. Otherwise, contact your system administrator.

**IUWI033E: Option --izsmeUnpaxLocation is required.**

**Explanation**

The install process requires this option.

**User response**

Rerun install process with all required options.

**IUWI034E: Directory <IZSME\_UNPAX\_LOCATION> specified in --izsmeUnpaxLocation doesn't exist.**

**Explanation**

The install process cannot unpack ISME into the passed directory.

**User response**

Check to make sure the directory exists, then check the value passed to the install script.

**IUWI036I: Backup permission for <PUBLIC\_KEY\_PATH> to <PUBLIC\_KEY\_PERMISSION\_BACKUP>.**

**Explanation**

Informational message.

**User response**

None required.

**IUWI037I: Backup permission for <PRIVATE\_KEY\_PATH> to <PRIVATE\_KEY\_PERMISSION\_BACKUP>.**

**Explanation**

Informational message.

**User response**

None required.

**IUWI038I: Backup permission for <AES256\_KEY\_PATH> to <AES256\_KEY\_PERMISSION\_BACKUP>.**

**Explanation**

Informational message.

**User response**

None required.

**IUWI039I: Option --forceLessSecureCrypto specified. Key files permissions would be set to 440.**

**Explanation**

Key files permissions will be set to 440.

**User response**

None required.

## **IUWI040W: Could not find Java executable in PATH**

### **Explanation**

The Java executable was not found.

### **User response**

Contact your system administrator.

## **IUWJ001E: Live CT/DB Adapter has failed <attempts count> times since in the last <time range> minutes. To prevent excess resource consumption it will not be auto-restarted until Zowe is restarted.**

### **Explanation**

Java Sidecar was unavailable for external reasons, and the limit on auto-restart attempts was exceeded.

### **User response**

Contact your system administrator. There may be issues with the server environment; Java Sidecar may not have enough RAM available.

**Module:** Java Sidecar

## **IUWJ002E: Failed to read plugin configuration file in <configFolder> directory. Use default parameters.**

### **Explanation**

The plug-in configuration file cannot be read in the current configuration folder.

### **User response**

Check to make sure the configuration file exists and is in the configuration folder.

## **IUWJ002W: Java Sidecar is down. Going to start it again...**

### **Explanation**

Java Sidecar was unavailable. It will be re-started automatically.

### **User response**

None required.

**Module:** Java Sidecar

## **IUWJ004W: Could not find executable via config file, ZOWE\_JAVA\_HOME, or JAVA\_HOME, will use Java from PATH/path if possible.**

### **Explanation**

Java home variable cannot be found in current config file, will use Java from PATH/path.

### **User response**

None required.

## **IUWJ005I: PATH= '<PATH>' ; path= '<path>' ;**

### **Explanation**

The Java Sidecar path is displayed..

**User response**

None required.

**IUWJ006I: About to spawn java CT/DB Adapter with class = <javaClassname>, with classpath = <javaClasspath>, and with port = <javaListenerInitialPort>, at address <javaListenerAddress> using executable <javaExecutable>**

**Explanation**

This message provides information about Java Sidecar.

**User response**

None required.

**IUWL001E: Error on filter assigns clone <error>**

**Explanation**

Object cannot be cloned.

**User response**

Contact your system administrator.

**IUWL002E: Error on expression augmentation <error>**

**Explanation**

Expression cannot be parsed.

**User response**

Contact your system administrator.

**IUWN001E: Unable to parse response while getting information for origin nodes.  
Inner message: <error>**

**Explanation**

Error parsing response.

**User response**

Contact your system administrator.

**IUWN001W: Failed to get applications which are allowed for user <username>.  
Inner error: <error>**

**Explanation**

Failed to get applications.

**User response**

Contact your system administrator.

**IUWN002E: Failed to get info for origin nodes. Inner error: <error>**

**Explanation**

Error parsing information.

**User response**

Contact your system administrator.

**IUWQ001E: Request to CT/DB Adapter failed. This service may not be properly configured, or servers that it depends on are not running.**

**Explanation**

Request failed.

**User response**

Contact your system administrator.

**IUWQ002E: Request failed. "level" parameter is required (number between 0 and 5)**

**Explanation**

Incorrect log level value.

**User response**

Change the log level to the correct value.

**IUWQ003E: handleJavaLogLevelRequest failed. Error: RBAC is disabled.**

**Explanation**

Could not change log level.

**User response**

Enable Role Based Access Control.

**IUWQ004E: handleJavaLogLevelRequest method <method> not implemented.**

**Explanation**

Log level request method is not implemented.

**User response**

Contact your system administrator.

**IUWQ005E: Failed to launch java CT/DB Adapter. Check that java 8 or higher is in the path of userid of the Zowe Application Server (currently <username>). Error=<error>.**

**Explanation**

The current version of Java is not correct.

**User response**

Check to ensure that Java 8 or later is in the path. If the error persists, contact your system administrator.

**IUWQ005W: QueryHandler instance <instanceId>. Socket encountered error: <error.message>.**

**Explanation**

The Query Handler encountered an error.

**User response**

Contact your system administrator.

**IUWQ006W: Failed to create query handler with new resources. Error: <error>**

**Explanation**

Failed to use new SDA jars. There may be a problem copying jars, or a failure to configure or start the Java process.

**User response**

Check to ensure that enough disk space is available and that environment variables are set correctly.

**Module:** SDA

**IUWQ007I: Query handler is going to use existing resources folder ' jars/ classpath.<id> '**

**Explanation**

The necessary SDA jars were prepared and will be used in the Java classpath.

**User response**

None required.

**Module:** SDA

**IUWC008E: Cannot set log level message**

**Explanation**

Incorrect call setLogLevel method or cannot set log level message.

**User response**

Check parameters and ensure that RBAC is set to **true**.

**IUWQ008I: Started new queryHandler with id=<id>**

**Explanation**

New query handler has started.

**User response**

None required.

**Module:** SDA

**IUWC008W: Error retrieving configuration before saving <err>**

**Explanation**

Configuration was not retrieved successfully.

**User response**

Contact your system administrator.

## **IUWQ010E: Cannot get config instance**

### **Explanation**

IZSME is not able to access configuration settings.

### **User response**

Contact IBM software support.

**Module:** Query Generator

## **IUWQ020E: queryHandler starting is not finished, id=<id>, status <status>, detail status <detail status>**

### **Explanation**

Query handler is starting and is not ready to process requests to TEMS.

### **User response**

If this problem occurs regularly, contact IBM software support and provide IZSME logs.

## **IUWQ021E: queryHandler is shutdown, id=<id>, status <status>, detail status <detail status>**

### **Explanation**

Query handler is shut down. IZSME cannot communicate with TEMS.

### **User response**

Contact customer support and provide IZSME logs.

## **IUWQ022E: Unknown queryHandler status, id=<id>, status <status>, detail status <detail status>**

### **Explanation**

Query handler status is not recognized. This is an error in IZSME internals and should not normally occur.

### **User response**

Contact customer support and provide IZSME logs.

## **IUWQ023E: Unexpected query handler detail status, query handler id=<id>, detail status <detail status>**

### **Explanation**

Query handler detail status is not recognized. This is an error in IZSME internals and should not normally occur.

### **User response**

Contact customer support and provide IZSME logs.

## **IUWQ024I: Query handler detail status update, id=<id>, detail status <detail status>**

### **Explanation**

Query handler changed status.

**User response**

None required.

**IUWQ101E: Cannot load table definitions for table \$<tableName>****Explanation**

Query Generator failed to retrieve table definitions. Currently, node server tries to take it from SDA directory and uses ctds\_common tables directory as fallback. Possible reasons:

- broken SDA
- broken query definition in workspace definition

**User response**

None required.

**Module:** Query Generator

**IUWQ102E: Cannot find column metadata in table definitions****Explanation**

Query Generator failed to find column metadata in table definitions. Possible reason: invalid query definition in workspace definition..

**User response**

Correct the query definition.

**Module:** Query Generator

**IUWQ103E: Cannot find TDW Warehouse column name for column \$<colName>****Explanation**

Column metadata in table definitions does not contain information about TDW alias for the column listed.

**User response**

Contact your system administrator.

**Module:** Query Generator

**IUWQ104E: Multi-table queries are not supported****Explanation**

Multi-table queries are not supported by the application.

**User response**

Limit your query to a single table.

**Module:** Query Generator

**IUWQ105E: HUB timestamp is expected but not provided****Explanation**

Caller of QueryGenerator did not provide it with hubTemsTimestamp.

**User response**

Contact IBM Software support.

**Module:** Query Generator

**IUWS0001E: Could not read file: <path> Internal error message: <error>**

**Explanation**

Problem reading metadata.json.

**User response**

Contact IBM software support.

**Module:** SDA

**IUWS0002E: Could not parse metadata file: <path>**

**Explanation**

Problem reading metadata.json.

**User response**

Contact IBM software support.

**Module:** SDA

**IUWS0003E: Could not get files from directory: <path>. Internal error <error>**

**Explanation**

Problem reading products directory.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS0004E: Could not get information for file: <path>.**

**Explanation**

Failed to read information about file in products directory.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS0040W: Could not find TPS resource for product <product>. Filter agent: ORIGINNODE - <originnode>, agent version - <version>, local version - <version>.**

**Explanation**

Failed to find the TPS resources listed.

**User response**

Contact IBM software support.

**Module:** SDA

**IUWS001W: Could not get metadata of existing SDA files. Internal error: <error>.**

**Explanation**

Problem reading some files from filesystem.

**User response**

None required. The SDA process will try to download the files automatically as if they were missing.

**Module:** SDA

**IUWS005I: Downloaded SDA files metadata <products>.****Explanation**

The list of successfully downloaded products.

**User response**

None required.

**Module:** SDA

**IUWS006W: Could not get configuration list. Internal error: <error>****Explanation**

Problem reading tepsConfigurations.json file.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS007I: Unpacked SDA files <products>****Explanation**

The list of successfully unpacked products.

**User response**

None required.

**Module:** SDA

**IUWS008W: Error occurred while getting SDA metadata. Host: <host>. Port: <port>. Internal error: <error>****Explanation**

An error occurred while retrieving SDA metadata.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS010W: Failed to download SDA files <java response>****Explanation**

An error occurred downloading the products. The response code is not equal to 200.

**User response**

Contact your system administrator.

**Module:** SDA

## **IUWS011I: Request download for <products>**

### **Explanation**

If the product is new, or there is a newer version available, a new download request is sent.

### **User response**

None required.

**Module:** SDA

## **IUWS012W: Failed to unpack SDA files <java response>**

### **Explanation**

An error occurred unpacking the products. The response code is not equal to 200.

### **User response**

Contact your system administrator.

**Module:** SDA

## **IUWS013W: Downloaded SDA files failed! Internal error: <error>**

### **Explanation**

An error occurred completing an HTTP request to the Java process.

### **User response**

Contact your system administrator.

**Module:** SDA

## **IUWS014I: Unpack SDA files done**

### **Explanation**

Unpack process is complete. Errors and unpacked products are cached.

### **User response**

None required.

**Module:** SDA

## **IUWS015W: Unpack SDA files failed! Internal error: <error>**

### **Explanation**

Problem completing HTTP request to the Java process.

### **User response**

Contact your system administrator.

**Module:** SDA

## **IUWS016I: Request unpack for <products>**

### **Explanation**

Downloaded products should be unpacked.

### **User response**

None required.

**Module:** SDA

## **IUWS017I: Downloaded list is empty**

### **Explanation**

No products have been downloaded.

### **User response**

None required.

**Module:** SDA

## **IUWS018I: Unpacked list is empty. No need to replace query handler**

### **Explanation**

The query handler should be replaced only if at least one product is unpacked (is new or has a higher version).

### **User response**

None required.

**Module:** SDA

## **IUWS019W: No configurations were retrieved**

### **Explanation**

No configurations are retrieved from `tepsConfigurations.json` file.

### **User response**

Set up at least one entry in the configuration file.

**Module:** SDA

## **IUWS020I: Nothing found to unpack**

### **Explanation**

No products were unpacked in the Java process.

### **User response**

None required.

**Module:** SDA

## **IUWS021W: getResourceJarsPathList: Couldn't read directory <directory>. Error: <error>**

### **Explanation**

Problem reading jars directory.

### **User response**

Contact your system administrator.

**Module:** SDA

## **IUWS022W: copyDirectory: Couldn't read directory <directory>. Error: <error>**

### **Explanation**

Problem reading source directory for copying.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS023W: removedDirectory: Couldn't read directory <directory>. Error: <error>**

**Explanation**

Problem reading directory for removal.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS024W: getResourcesClasspath: Cannot load product resources: <error>**

**Explanation**

Problem accessing product resource jars. Fallback jars will be used. Possible reasons: No SDA downloaded, or not enough disk space for copying.

**User response**

None required. If the problem recurs consistently, contact your system administrator.

**Module:** SDA

**IUWS025W: updateSdaMetadata: failed to write SDA-metadata file. Error: <error>**

**Explanation**

Problem writing to the SDA metadata file.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS026I: Classpath directory <dir> doesn't exist. Starting to copy JARs from 'current'.**

**Explanation**

Copying downloaded SDA jars to a new classpath directory.

**User response**

None required.

**Module:** SDA

**IUWS027I: Query handler will use existing classpath directory: <dir>.**

**Explanation**

The necessary SDA jars have been prepared and will be used in the Java classpath.

**User response**

None required.

**Module:** SDA

### **IUWS028W: Failed to create <path\_to\_dir> directory.**

#### **Explanation**

Error creating the directory.

#### **User response**

Contact your system administrator.

**Module:** SDA

### **IUWS029I: Classpath directory with JARs is ready**

#### **Explanation**

The directory with SDA jars java/classpath.<id> is ready.

#### **User response**

None required.

**Module:** SDA

### **IUWS030W: removeDirectory: Failed to remove directory <directory>**

#### **Explanation**

Error removing directory.

#### **User response**

Contact your system administrator.

**Module:** SDA

### **IUWS031W: Failed to remove file. Path: <path>. Error: <error>**

#### **Explanation**

Problem removing file during directory removal.

#### **User response**

Contact your system administrator.

**Module:** SDA

### **IUWS032W: Failed to parse SDA-metadata. Error: <error>**

#### **Explanation**

The sda/metadata.json file has wrong JSON format.

#### **User response**

Contact IBM software support.

**Module:** SDA

### **IUWS033I: SdaMetadata retrieved from <host>:<port>, <sdaMetadata>**

#### **Explanation**

Informational message.

#### **User response**

None required.

**Module:** SDA

**IUWS033W: Failed to read SDA-metadata file. Error: <error>**

**Explanation**

Error reading sda/metadata.json file.

**User response**

Check to see if the JSON metadata file exists. If it does not, no action is required. If the file does exist, contact IBM software support.

**Module:** SDA

**IUWS034W: Cannot inject column description from prop file: no <columnName> column found in JSON definitions in <tableName> table.**

**Explanation**

Metadata may be corrupted.

**User response**

Contact IBM software support.

**Module:** SDA

**IUWS035E: Failed to inject properties from <fileName>. Error message: <error>**

**Explanation**

JSON metadata generator failed to process the properties file to inject table/column descriptions. The .properties file may be missing.

**User response**

Check to see if a .properties file exists.

**Module:** SDA

**IUWS035W: Unknown error occurred <error>**

**Explanation**

Unknown error.

**User response**

Contact IBM Software Support.

**IUWS045W: Failed to update <path> for product <product>. Error message: <error>**

**Explanation**

Problem writing to metadata.json for product.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS051E: Error on package.xml search in <product\_dir> <error>**

**Explanation**

Search error.

**User response**

Contact your system administrator.

**IUWS052E: Expected 1 package.xml file. Found <count> package.xml files in <product\_dir>****Explanation**

Expected one package.xml file. Found <count> package.xml files in <product\_dir>

**User response**

Contact your system administrator.

**IUWS101I: Request file from host: <host> port: <port> for resource <resource> to save in path: <path>****Explanation**

Product will be downloaded from HTEMS.

**User response**

None required.

**Module:** SDA

**IUWS102I: Unpacking jars <products>****Explanation**

Products will be unpacked.

**User response**

None required.

**Module:** SDA

**IUWS102W: Failed to download <product\_value> product from host <host\_value> port <port\_value>****Explanation**

Download failed.

**User response**

Contact your system administrator.

**IUWS103W: Failed to process unpack request <error>****Explanation**

Problem unpacking products.

**User response**

Contact your system administrator.

**Module:** SDA

## **IUWS104W: Failed to process download request <error>**

### **Explanation**

Problem downloading products.

### **User response**

Contact your system administrator or IBM software support.

**Module:** SDA

## **IUWS105W: Failed to unpack <product> product <error>**

### **Explanation**

Problem unpacking product.

### **User response**

Contact your system administrator or IBM software support.

**Module:** SDA

## **IUWS106W: Failed to parse request body. Query: <query> <error>**

### **Explanation**

Problem parsing request in JSON format.

### **User response**

Contact IBM software support.

**Module:** SDA

## **IUWS0001E: Could not read file: <path> Internal error message: <error>**

### **Explanation**

Problem reading metadata.json.

### **User response**

Contact IBM software support.

**Module:** SDA

## **IUWS0002E: Could not parse metadata file: <path>**

### **Explanation**

Problem reading metadata.json.

### **User response**

Contact IBM software support.

**Module:** SDA

## **IUWS0003E: Could not get files from directory: <path>. Internal error <error>**

### **Explanation**

Problem reading products directory.

### **User response**

Contact your system administrator.

**Module:** SDA

**IUWS0004E: Could not get information for file: <path>.**

**Explanation**

Failed to read information about file in products directory.

**User response**

Contact your system administrator.

**Module:** SDA

**IUWS0040W: Could not find TPS resource for product <product>. Filter agent: ORIGINNODE - <originnode>, agent version - <version>, local version - <version>.**

**Explanation**

Failed to find the TPS resources listed.

**User response**

Contact IBM software support.

**Module:** SDA

**IUWT001E: Problem with getting data from WorkspaceManager service**

**Explanation**

INODESTS result set cannot be parsed.

**User response**

Contact your system administrator.

**IUWT002E: Unable to get products from inodests; error: <error>**

**Explanation**

Cannot get products from INODESTS.

**User response**

Contact your system administrator.

**IUWW002E: Problem with getting data from WorkspaceManager service**

**Explanation**

There was an issue retrieving data from WorkspaceManager.

**User response**

None required.

**IUWW003E: Error retrieving workspaces <...>**

**Explanation**

There was an issue retrieving data from the workspaces indicated.

**User response**

None required.

# Tivoli Enterprise Portal

Tivoli Enterprise Portal (also called the *portal* or the *portal client*) is the distributed user interface for products using Tivoli Management Services. The Tivoli Enterprise Portal is a thin Java™ client application. It has its own server, the Tivoli® Enterprise Portal Server, that communicates with the hub monitoring server to send requests to and retrieve data from monitoring agents on managed systems. Tivoli® Enterprise Portal Server (the *portal server*) builds and formats the portal workspaces that display real-time and historical data collected by the monitoring agents. The portal server can run on Windows™, AIX®, or Linux™ systems.

You can access the portal client in any of the following ways:

- Browser client (Internet Explorer or Mozilla Firefox on Windows™, Linux™, or AIX®) connected to a web server embedded in the portal server
- Desktop client
- Java-based desktop client that is updated at every startup. IBM Tivoli Monitoring supports IBM Java 8 and Oracle Java 8.

**Note:** You can use open-source Java Web Start replacements, such as [OpenWebStart](#) or [Open Web Launch](#) (Windows only), to run your Tivoli Enterprise Portal client. For more information, see the following topics.

For setup information about the portal server and client, see the [IBM Tivoli Monitoring: Installation and Setup Guide](#).

For information about using the client, see [IBM Tivoli Monitoring: Tivoli Enterprise Portal User's Guide](#)

## OpenWebStart

You can use OpenWebStart, an open-source Java Web Start replacement, to run your Tivoli Enterprise Portal client.

You can download OpenWebStart at <https://openwebstart.com/>.

If you are moving from Open Web Launch to OpenWebStart, configure OpenWebStart to use the same JRE that was used with Open Web Launch.

**Note:** Java Web Start by Oracle Corporation has been deprecated as of Java 9 and removed completely in Java 11.

## Open Web Launch

You can use Open Web Launch, an open-source Java Web Start replacement, to run your Tivoli Enterprise Portal client.

Open Web Launch is included in IBM Tivoli Management Services on z/OS for running the Tivoli Enterprise Portal client, which can be run as a Java-based desktop application. Open Web Launch is supported for the Windows platform only.

**Note:** Java Web Start by Oracle Corporation has been deprecated as of Java 9 and removed completely in Java 11.

## Installing Open Web Launch

Install Open Web Launch on your Windows system.

You can install Open Web Launch using a setup program, which assists with defining configuration options, or you can use a portable version.

When deploying Open Web Launch in a large Tivoli Enterprise Portal environment, you can [install using the setup silently](#) or [use the portable version](#).

## Prerequisites

To use Open Web Launch with your Tivoli Enterprise Portal client, the following requirements apply:

- Windows system (32 or 64-bit). Open Web Launch is supported for the Windows platform only.
- The Tivoli Enterprise Portal client must be installed on your Windows system. For more information, see [Using Web Start to download and run the desktop client](#).
- IBM Tivoli Monitoring 6.3.0 Fix Pack 7 Service Pack 7 (6.3.0.7-TIV-ITM-SP0007)
- An appropriate Java version must be installed on the system.
- Certificates required by a Java application must be imported.

## Transfer files from a z/OS system to a Windows workstation

Transfer Open Web Launch program files from the mainframe to your workstation.

### About this task

The Open Web Launch program files are located in the z/OS data set TKANDATV. Before you can install Open Web Launch, you must download the files from the mainframe to your workstation and rename them.

**Note:** Although you can also download the Open Web Launch open source version directly from the internet, IBM fully supports only the version provided in z/OS data set TKANDATV.

### Procedure

- From the z/OS system, transfer the members listed in the following table, which are located in data set TKANDATV, to your workstation in binary mode and rename them accordingly.

<b>TKANDATV(member)</b>	<b>File name on workstation</b>	<b>Description</b>
KDSOSA	open-web-launch-setup-admin.exe	Administrator setup program
KDSOSU	open-web-launch-setup-user.exe	User setup program
KDSO32	openweblaunch32.exe	32-bit portable version
KDSO64	openweblaunch64.exe	64-bit portable version
KDSOLIC	OWL License (TMSz).zip	License file

### What to do next

Install Open Web Launch using any of the following methods:

- [“Install Open Web Launch using the setup program” on page 1187](#)
- [“Install Open Web Launch silently” on page 1189](#)
- [“Use the portable version of Open Web Launch” on page 1190](#)

## Install Open Web Launch using the setup program

Install Open Web Launch using the setup program to configure options during installation.

### Before you begin

The following requirements apply:

- IBM Tivoli Monitoring 6.3.0 Fix Pack 7 Service Pack 7 (6.3.0.7-TIV-ITM-SP0007)

- Windows system (32 or 64-bit)
- An appropriate Java version must be installed on the system.
- Certificates required by a Java application must be imported.

## About this task

Using the Open Web Launch setup program, you can specify configuration options during installation.

There are two versions of the setup program:

- `open-web-launch-setup-admin.exe` allows you to install Open Web Launch so that all users on the system have access to it and use the same settings. Administrator privileges are required.
- `open-web-launch-setup-user.exe` allows you to install Open Web Launch for the current user only.

**Note:** You can also run the setup silently, which can be useful when deploying Open Web Launch in a large Tivoli Enterprise Portal environment. See [“Install Open Web Launch silently”](#) on page 1189.

To install Open Web Launch using the setup program, perform the following procedure.

## Procedure

1. Run the appropriate Open Web Launch setup program:
  - `open-web-launch-setup-admin.exe` (Administrator privileges are required.)
  - `open-web-launch-setup-user.exe`
2. Use the setup program to complete the installation, which includes performing the following configuration steps:
  - a. Choose components to install. Because **Browser Extensions** are not needed for the Tivoli Enterprise Portal client, installing this component is not necessary.
  - b. Select any of the following configuration options:

<i>Table 101: Open Web Launch configuration options</i>	
Option	Description
<b>JNLP support</b>	Select this option to support the Java Network Launch Protocol (JNLP).
<b>Make default on JNLP files</b>	Select this option to make Open Web Launch the default action when opening JNLP files in <b>File Explorer</b> .
<b>Register JNLP/JNLPS protocol</b>	Select this option to register the JNLP and JNLPS protocol for Open Web Launch.
<b>Show Java Console</b>	Select this option to display the Java console when a Java Web Start application is running.
<b>Add downloaded applications to control panel</b>	Select this option to add applications to the <b>Control Panel</b> .
<b>Verify jar signatures</b>	Select this option to verify JAR file certificates.
<b>Verify all jars have the same signature</b>	Select this option to verify that all downloaded JAR files of the same origin have the same signatures.
<b>Use environment variables HTTP_PROXY and HTTPS_PROXY for proxy settings</b>	Select this option to use the HTTP_PROXY and HTTPS_PROXY variables for proxy settings.

- c. Specify the Java location to use:

Table 102: Open Web Launch Java location settings	
Option	Description
<b>Use a specific Java version</b>	Select this option to use a specific Java location. You must provide the folder where Java is installed.
<b>Use registry settings to determine Java version</b>	Select this option to read the Oracle Java location from the registry.
<b>Use system environment variable JAVA_HOME</b>	Select this option to read the Java location from the JAVA_HOME environment variable.

As a result of the setup program, the `openweblaunch.exe` file is created.

3. (Optional) To modify settings after installation, select **Rocket Software > Configure Open Web Launch** from the **Start** menu.
4. (Optional) To uninstall Open Web Launch, use the **Control Panel**.

## Install Open Web Launch silently

Install Open Web Launch using the setup program silently, which can be useful when deploying in large environments.

### Before you begin

The following requirements apply:

- IBM Tivoli Monitoring 6.3.0 Fix Pack 7 Service Pack 7 (6.3.0.7-TIV-ITM-SP0007)
- Windows system (32 or 64-bit)
- An appropriate Java version must be installed on the system.
- Certificates required by a Java application must be imported.

### About this task

You can run the Open Web Launch setup program using an option to run the program silently, which uses default configuration options. This installation method can be useful when deploying Open Web Launch in a large Tivoli Enterprise Portal environment.

There are two versions of the setup program:

- `open-web-launch-setup-admin.exe` allows you to install Open Web Launch so that all users on the system have access to it and use the same settings. Administrator privileges are required.
- `open-web-launch-setup-user.exe` allows you to install Open Web Launch for the current user only.

The `/S` option (which must be upper case) causes default configuration options to be used, bypassing the configuration option setting process and allowing the setup program to run silently.

### Procedure

1. Run the appropriate Open Web Launch setup program:
  - `open-web-launch-setup-admin.exe /S` (Administrator privileges are required.)
  - `open-web-launch-setup-user.exe /S`

**Note:** The `/S` option must be upper case.

As a result of the setup program, the `openweblaunch.exe` file is created.

2. (Optional) To modify settings after installation, select **Rocket Software > Configure Open Web Launch** from the **Start** menu.
3. (Optional) To uninstall Open Web Launch, use the **Control Panel**.

## Use the portable version of Open Web Launch

Use the portable version of Open Web Launch without running a setup program.

### Before you begin

The following requirements apply:

- IBM Tivoli Monitoring 6.3.0 Fix Pack 7 Service Pack 7 (6.3.0.7-TIV-ITM-SP0007)
- Windows system (32 or 64-bit)
- An appropriate Java version must be installed on the system.
- Certificates required by a Java application must be imported.

### About this task

The Open Web Launch executable is completely self-contained and can be used without running a setup.

There are two versions of the executable:

- `openweblaunch32.exe`: 32-bit portable version
- `openweblaunch64.exe`: 64-bit portable version

To use the portable version of Open Web Launch, perform the following procedure.

### Procedure

1. Define a shortcut to the appropriate Open Web Launch executable:
  - `openweblaunch32.exe`
  - `openweblaunch64.exe`
2. (Optional) To modify configuration options, see [“Command line options” on page 1190](#) and [“Registry settings” on page 1191](#).
3. (Optional) To uninstall Open Web Launch, use the **Control Panel**.

## Usage scenarios

Review scenarios for using Open Web Launch with your application.

### JNLP files

If you enabled **Make default on JNLP files** in the setup, double-clicking a JNLP file in File Explorer will open the file, download the required resources, and start the application as instructed in the JNLP file.

If you do not want this option, you can create a shortcut on the workstation using the following syntax:

```
<path-to-open-weblaunch>\openweblaunch [options] <jnlp-file>
```

### JNLP URL

Open Web Launch can run Java Web Start applications from a URL pointing to a JNLP file.

Create a shortcut on the workstation using the following syntax:

```
<path-to-open-weblaunch>\openweblaunch [options] <jnlp-url>
```

## Command line options

Command line options are available when using Open Web Launch.

When double-clicking a JNLP file, the following command is the default command that is executed:

```
openweblaunch.exe <jnlp_reference>
```

**Note:** The `openweblaunch.exe` file is created by the setup program.

The following command line options are available:

**-disableVerification**

This command option skips signature verification in jar files:

```
openweblaunch.exe -disableVerification <jnlp_reference>
```

**-disableVerificationSameOrigin**

This command option skips verification that all jars have the same signature:

```
openweblaunch.exe -disableVerificationSameOrigin <jnlp_reference>
```

**-help**

This command option displays usage information:

```
openweblaunch.exe -help
```

**-javaDir**

This command option passes a specific Java location to use when starting a Java Web Start application:

```
openweblaunch.exe -javaDir <java_folder> <jnlp_reference>
```

**-showConsole**

This command option causes the Java console to be displayed when a Java Web Start application is running:

```
openweblaunch.exe -showConsole <jnlp_reference>
```

**-uninstall**

This command option uninstalls a specific Java Web Start application:

```
openweblaunch.exe -uninstall <jnlp_reference>
```

The `-gui` option together with `-uninstall` shows the GUI during the uninstall process:

```
openweblaunch.exe -uninstall -gui <jnlp_reference>
```

## Registry settings

Review Open Web Launch settings that are stored in the registry.

Registry settings that control the Open Web Launch behavior are set through the setup program and can also be set manually, as follows:

- By an administrator under `HKEY_CURRENT_USER\SOFTWARE\Rocket Software\Open Web Launch` for per-user settings
- Under `HKEY_LOCAL_MACHINE\SOFTWARE\Rocket Software\Open Web Launch` for per-machine settings.

The following table lists the registry settings:

<i>Table 103: Open Web Launch registry settings</i>		
<b>Setting</b>	<b>Description</b>	<b>Value</b>
ShowConsole	Controls if the Java console is displayed while running the application	<b>0</b> Do not show <b>1</b> Show
JavaDetection	Determines how Open Web Launch determines the Java that it uses	<b>Registry</b> Read the Oracle Java location from the registry  <b>JavaDir</b> Use the path specified during setup  <b>JavaHome</b> Read the Java location from the JAVA_HOME environment variable
JavaDir	Contains the Java location as specified during setup. This setting is used when JavaDetection is set to <b>JavaDir</b> .	
MakeDefault	Specifies if Open Web Launch is the default action for JNLP files in File Explorer	<b>0</b> Open Web Launch is not the default <b>1</b> Open Web Launch is the default
AddToControlPanel	Indicates if applications are added to the Control Panel	<b>0</b> Add applications to the Control Panel <b>1</b> Do not add applications to the Control Panel
DisableVerification	Specifies if verification of certificates is disabled	<b>0</b> Do not disable verification <b>1</b> Disable verification
DisableVerificationSameOrigin	Specifies if verification of downloaded JAR files having the same origin is disabled	<b>0</b> Do not disable verification <b>1</b> Disable verification

Setting	Description	Value
UseHttpProxyEnvironmentVariable	Indicates if HTTP_PROXY and HTTPS_PROXY variables are used	<b>0</b> Do not use  <b>1</b> Use

## JNLP keywords

This section provides the JNLP keywords that Open Web Launch supports.

The following table lists the Java Network Launch Protocol (JNLP) keywords that Open Web Launch supports.

*Table 104: JNLP keywords implemented by Open Web Launch*

Element	Attribute	Attribute	Values
information			
	icon		
	shortcut		
	title		
	vendor		
	homepage		
	description		
	version		App version like 1.0.1. The tag is Open Web Launch extension
application-desc			
resources			
		os	windows, darwin, linux
		arch	amd64, x86
	j2se or java		
		version	
		java-vm-args	
	jar		
		href	
	nativelib		
		href	
		name	
	extension		
		href	
		name	
		version	

For more information, see [Java Network Launch Protocol \(https://docs.oracle.com/javase/tutorial/deployment/deploymentInDepth/jnlp.html\)](https://docs.oracle.com/javase/tutorial/deployment/deploymentInDepth/jnlp.html).

## Frequently asked questions (FAQs)

Review common questions and answers about Open Web Launch.

## Are there 32 and 64-bit versions available?

Both versions are installed by default (openweblaunch32.exe and openweblaunch64.exe). Based on the Java Virtual Machine selected, the setup will make the 32 or 64-bit version of Open Web Launch the default (openweblaunch.exe).

## What happens if a JNLP file on the host changes?

Open Web Launch will check for changes between remote and local JNLP files and will refresh where needed.

## How does Open Web Launch determine the Java it should use?

Open Web Launch uses the following order when determining what Java executable it will use to run a Java Web Start application:

1. **Command line options.** When `-javaDir <java_folder>` is specified, Java installation from `<java_folder>` will be used.
2. **JAVA\_HOME.** Open Web Launch will use the JAVA\_HOME environment variable to locate the version of Java it should use if this option was selected during setup.
3. **Registry.** Open Web Launch will use a specific version of Java if this option was indicated during setup.
4. **Path.** If none of the other options result in a Java version that it can use, Open Web Launch will try to locate Java on the PATH.

## Troubleshooting

Review how to troubleshoot common issues when using Open Web Launch.

### How to debug an Open Web Launch issue

To monitor Open Web Launch activity or to troubleshoot a problem, you can review the log file. The log file contains information such as details about actions that have been taken, JARs that have been downloaded, and messages about any errors that might have occurred.

The openweblaunch.log file can be found under `%APPDATA%\Rocket Software\Open Web Launch\log`, which usually resolves to `c:\users\<username>\AppData\Roaming\Rocket Software\Open Web Launch\log`.

### How to clear the cache

If you are experiencing performance issues or to assist with troubleshooting, you can clear the cache for Open Web Launch.

The Open Web Launch cache can be found under `%APPDATA%\Rocket Software\Open Web Launch\cache`, which usually resolves to `c:\users\<username>\AppData\Roaming\Rocket Software\Open Web Launch\cache`. To clear the cache, delete the contents of this folder.

### How to determine if the console command is working

The Open Web Launch console uses the same console functionality as in regular Java. In the **Java Control Panel** on the **Advanced** tab, you can use the **Java console** option to control the console.

---

## Reference

Reference material supplements the information provided in the configuration documentation.

---

### Persistent data store

Review information about the persistent data store, which is used for storing historical data.

The *persistent data store* (PDS) is a set of files used for storing and retrieving near-term historical data.

**Important:** Two versions of the persistent data store, PDS V1 and PDS V2, are currently supported. The change from PDS V1 to PDS V2 occurs automatically for the monitoring agents with the initial startup of a Tivoli Enterprise Monitoring Server or a Tivoli Enterprise Monitoring Agent after the application of PDS V2 maintenance. Moving to PDS V2 is recommended. For more information, see [“PDS V2 activation” on page 1228](#).

**Note:** The abbreviation for the OMEGAMON persistent data store (PDS) is distinct from and should not be confused with the abbreviation for the z/OS partitioned data set (PDS).

#### Topics:

- [“Persistent data store V1 \(PDS V1\)” on page 1195](#)
- [“Persistent data store V2 \(PDS V2\)” on page 1222](#)

### Persistent data store V1 (PDS V1)

The *persistent data store* (PDS) is a set of files used for storing and retrieving near-term historical data. The content in this section applies to PDS V1.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

If you intend to collect historical data, you must make provisions to manage the collected data. Without additional action, on distributed computers, the history data files grow unchecked, using up valuable disk space. On z/OS®, the data sets allocated to store historical data are maintained by the persistent data store, which empties and reuses the data set with the oldest data. As you collect and use the historical data, you might want to adjust the size of the data sets allocated.

The topics in this section explain how the persistent data store works, document the maintenance procedure and options, and provide instructions for setting up tracing for troubleshooting problems with the persistent data store.

For more information about using and configuring the persistent data store, see the following topics:

- [Decision 8: Whether to collect historical data and how to manage it](#)
- [Allocate data sets and configure maintenance for historical data](#)
- [How to: Change PDS file count and file size](#)
- [How to: Reallocate PDS files](#)
- [\(Optional\) Enable maintenance of the historical data store](#)
- [\(Optional\) Configure historical data collection](#)

## Overview of PDS V1

The persistent data store is used for writing and retrieving historical data. The data written to the persistent data store is organized by tables (attribute groups), groups, and data sets. Each table is assigned to a group. Multiple tables can be assigned to each group, and each group can have one or more data sets assigned to it. By default, six data sets are assigned to a group.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

One of the data sets in each collection group is kept empty so that it can be quickly switched to if the active data set fills up. After this switch is made, the persistent data store looks to see if there are any empty data sets in the group. If not, the automatic maintenance process empties the data set with the oldest data.

During configuration, you allocate space for the data sets and specify what is to be done with historical data that is sitting in a data set that is being emptied. The default is to delete the data. Alternatively, you can configure maintenance to back up the data to tape or DASD, export the data to an external program for processing, or extract the data and write it in a viewable format.

Note that if the Tivoli Data Warehouse is used, especially with a 1-hour warehousing interval, there is little or no advantage to invoking the BACKUP, EXPORT, or EXTRACT functions for data collected by an OMEGAMON monitoring agent. These functions are more relevant if warehousing is not enabled, or if you are maintaining historical data for OMEGAMON agents whose data is not displayed by the Tivoli Enterprise Portal.

No historical data collection takes place until collection is configured and started through the OMEGAMON enhanced 3270 user interface or the History Collection Configuration window of the Tivoli Enterprise Portal. In the window, you specify the attribute groups for which you want data to be collected, the interval for data collection, and the location where you want the collected data to be stored (at the monitoring server or at the agent). In the Tivoli Enterprise Portal, you can also specify whether you want to store the data in the Tivoli® Data Warehouse so it will be available for long-term history data reporting.

## Automatic maintenance process

When a data set becomes full, the persistent data store selects an empty data set to make active. When the data set is active, the persistent data store checks to see if there are any more empty data sets. If there are no more empty data sets, maintenance is started on the oldest data set.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The maintenance process consists of two files that are generated and tailored by the configuration process and invoked by the persistent data store.

- `&STC_HILEV.PD1`  
`&STC_HILEV.PD1` is a procedure that is started by the automatic maintenance processing if one of the three maintenance functions is configured. Limited information is passed to this started task to drive a CLIST in a TSO environment. The configuration software creates this file and puts it into the RKANSAMU library for each runtime environment that has a persistent data store component. This procedure must be copied to a system level procedure library so the command issued to start it can be found.

The parameters passed to `&STC_HILEV.PD1` vary based on the version of the configuration software and the persistent data store. This document assumes the latest version is installed. Three parameters are passed to the started task:

- `HILEV`  
High-level qualifier for the runtime environment that configured this version of the persistent data store. It is obtained by extracting information from the DD statement that points to the persistent data store control files.

- LOWLEV  
Low-level qualifier for the sample library. It currently contains the RKANSAMU field name.
- data set  
Fully qualified name of the data set being maintained. It is possible to have a data set name that does not match the high-level qualifier specified in the first parameter.
- &STC\_HILEV.PDC  
&STC\_HILEV.PDC is the CLIST that is executed by the &STC\_HILEV.PD1 procedure. The CLIST has the task of obtaining all of the information required to perform the maintenance, saving the data, and initialize the data set so it can be used again. This procedure performs the following actions:
  - Checks the flags for BACKUP, EXTRACT, and EXPORT. If any of the flags is set, the CLIST performs the appropriate actions.
  - Deletes the data set
  - Allocates a new data set based upon the parameters in *KppAL* in RKANPARU
  - Makes the new data set available for reading and writing

Before launching the &STC\_HILEV.PD1 process, the persistent data store checks to see if BACKUP, EXPORT, or EXTRACT function has been specified. If no function has been specified, then the data set is initialized in the persistent data store started task and &STC\_HILEV.PD1 is not executed.

PARMGEN configuration uses the high-level qualifier for started tasks and appends PD1 for the procedure and PDC for the CLIST. If you changed KPDPROC to some other than the default during configuration, the suffixes remain 1 and C. The procedure runs with the ID assigned to the procedure or your system default ID.

## The part of maintenance you control

Most of the persistent data store maintenance procedure is automatic and does not require your attention. However, there are a few options you must decide upon.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

In the PARMGEN configuration method, you use the following parameters to select the options of BACKUP, EXPORT, and EXTRACT:

- **RTE\_PDS\_BACKUP\_FLAG**
- **RTE\_PDS\_EXPORT\_FLAG**
- **RTE\_PDS\_EXTRACT\_FLAG**

By default, these are all set to N. You can also set the parameter **RTE\_PDS\_BATCHINT\_FLAG**, which has a default of N. If the BACKUP, EXPORT, EXTRACT, and BATCHINT flags are set to N, then the data set is re-initialized within the address space without reallocating the data set. If any of these flags is set to Y, then the Persistent Datastore maintenance procedure is run to empty a data set. See [“Command interface” on page 1210](#) for descriptions of additional commands that are used primarily for maintenance.

- BACKUP makes an exact copy of the data set being maintained.  
You can indicate one of these backup options:
  - Back up the data for each data set group.
  - Back up the data to tape or to DASD for all data set groups.
- EXPORT writes the data to a flat file in an internal format that can be used by external programs to post process the data. This file is also used for recovery purposes when the persistent data store detects potential problems with the data.
- EXTRACT writes the data to a flat file in human-readable form, which is suitable for loading into other DBMS systems. The EXTRACT option is not strictly considered a way to maintain the data. If EXTRACT is specified, the data is pulled out and externalized in EBCDIC form, but the extraction does not empty the data set. If EXTRACT is specified, the data is extracted immediately from a data set that is switched from

an active state to a full state. The data set is not initialized until it becomes a candidate for being emptied, so the most current data becomes available in an extracted form without that data being lost.

If none of the options is specified, the data in the data set being maintained is erased.

For more information about configuring maintenance, see [“Allocate data sets and configure maintenance for historical data” on page 456](#).

## Indicating data set backup to tape or to DASD

For all data set groups that you selected to back up, you must indicate whether you want to back up the data to tape or to DASD. This decision applies to all data sets.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

**Tip:** If you edit the &STC\_HILEV.PDC member of the *rhilev.rte.RKANSAMU* data set and then upgrade or reconfigure the runtime environment, your modifications might be overwritten.

### Procedure

- Complete on of the following steps to indicate where data should be backed up.
  - If you are backing up data sets to tape, use &STC\_HILEV.PDC as included in the product.
  - If you are backing up data sets to DASD, follow this procedure to modify &STC\_HILEV.PDC:
    - a. With any editor, open the procedure in the *rhilev.rte.RKANSAMU(KPDPROCC)* member.
    - b. Find the statement

```
TAPE = N
```

and change the N to Y.
    - c. Save the procedure.
    - d. Copy the &STC\_HILEV.PDC procedure to your system procedure library.

## Names of exported data sets

If you choose to export data, you are requesting that the data be written to a sequential data set. The names of all exported data sets follow a specific format.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The names of all exported data sets follow this format:

```
rhilev.rte.Annnnnnn
```

where:

- *rhilev* is the high-level qualifier of all data sets in the persistent data store.

- *rte* is the mid-level qualifier of all data sets in the persistent data store, as you specified during configuration.
- A is a required character
- *nnnnnn* is a sequential number

## Persistent data store recovery

When an address space is started, a file check is performed against each of the persistent data stores. If a data store was not properly closed when the address space was brought down, a reset is performed. If the reset cannot be performed, a recovery process is issued against the file.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

If the recovery process fails, you might need to export the data from the file, and then recreate the file and import the exported data (see [“Exporting and restoring persistent data” on page 1201](#) for more information).

The results of the file check, the reset, and the recovery process are displayed in the RKPLOG.

## Making backed up data available

After data has been backed up to DASD or to tape, it can be made available to those products that use it.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

When the automatic maintenance facility backs up a data set in the persistent data store, it performs the following actions:

- Disconnects the data set from the monitoring server
- Copies the data set to tape or DASD in a format readable by the monitoring server
- Deletes and reallocates the data set
- Reconnects the empty data set to the monitoring server

To view backed up data from the product, you must ensure that the data set is stored on an accessible DASD volume and reconnect the data set to the monitoring server. The following steps outline the procedure for reconnecting a backed up data set.

- Understand the naming convention for backed up data sets.
- Determine whether data collection is taking place in the Tivoli Enterprise Monitoring Server or agent address space.
- Find the data set you want to reconnect.
- Connect the data set to the collector address space.
- Disconnect the data set from the collector address space.

## Naming conventions for backed up data sets

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The maintenance facility uses the following format to name the data sets it creates when it backs up data:

```
rhilev.rte.Bnnnnnnn
```

where:

- *rhilev* is the high-level qualifier of all data sets in the persistent data store, as you specified during configuration
- *rte* is the mid-level qualifier of all data sets in the persistent data store, as you specified during configuration
- B is a required character
- *nnnnnnn* is a sequential number

## Finding backed up data

To make backed up data available, you need to know the name of the data set and the persistent data store group to which the data set belongs.

## About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

To find the name of the data sets and the group to which they belong, see the *rte\_hilev.rte\_name.RKANPARU(KppPG)* members in each RTE.

## Connecting the data set to the collector address space

To view backed up historical data from the product, the backed up data set must be connected to the collector address space.

## About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Use the following procedure to connect the backed up data set to the collector address space.

## Procedure

1. If the data set is located on tape, use a utility such as IEBGENR to copy the data set to a DASD volume that is accessible by the collector address space.
2. Use the command interface to do an [“ADDFILE command” on page 1211](#). The ADDFILE command requires the group name and data set name. Make sure you use the RO option on the command. Otherwise, the data set is included in the PDS maintenance routines and is eventually over written.

## Disconnecting the data set

The data set that you connected to the monitoring server is not permanently connected. The connection is removed automatically the next time the monitoring server stops. You can also remove the data set from the persistent data store immediately after you view the data.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

To disconnect the data set after viewing the data, use the command interface to do a [“DELFILE command”](#) on page 1212. The DELFILE command requires the only the name of the data set.

## Exporting and restoring persistent data

In addition to the standard maintenance jobs used by the persistent data store, there are sample jobs distributed with the monitoring server that you can use to export data to a sequential file and then restore the data to the original indexed format.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

These jobs are not tailored by the configuration software at installation time and must be modified to add pertinent information.

## Exporting persistent data

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Follow this procedure to export persistent data to a sequential file:

### Procedure

1. Stop the monitoring server if it is running.
2. Copy *rhilev.rte.RKANSAMU(KPDEXPTJ)*.
3. Update the JCL with the following values:
  - rhilev*  
high-level qualifier of the runtime environment where the persistent data store resides.
  - &pdsn*  
fully qualified name of the persistent data store data set to be exported
  - &expdsn*  
fully qualified name of the export file you are creating

**&unit2**

DASD unit identifier for *expdsn*

**&ssz**

record length of output file (You can use the same record length as defined for *pdsn*.)

**&sct**

count of blocks to allocate (You can use the same size as the blocks allocated for *pdsn*.)

**bsz**

&ssz value plus eight

With the exception of *&pdsn*, these values can be found in the PDSLOG SYSOUT of the monitoring server started task.

4. Submit the job.

## Restoring exported data

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Follow this procedure to restore a previously exported persistent data store data set.

### Procedure

1. Copy *rhilev.rte.RKANSAMU(KPDRESTJ)*.
2. Update the JCL with the following values:

***rhilev***

high-level qualifier of the runtime environment where the persistent data store resides

***pdsn***

fully qualified name of the persistent data store data set to be restored

***expdsn***

fully qualified name of the file you are creating

***unit2***

DASD unit identifier for *expdsn*

***group***

identifier for the group that the data set will belong to

***siz***

size of the data set to be allocated, in megabytes

With the exception of *pdsn*, these values can be found in the PDSLOG SYSOUT of the monitoring server started task.

3. Submit the job.

## Format of exported data records

Exported data records share a common format, but the content of the tables and columns is product-specific. The topics in this section describe the format of the dictionary entries.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

A single dictionary data set contains a description and mapping information for every table recorded in the original data set. In many cases, the tables have variable-length columns and some rows of data where columns are not available. The information about missing columns and lengths for variable columns is embedded in the data records. Some tables have columns that physically overlay each other. This must be taken into account when trying to obtain data for these overlays.

Data in the exported file is kept in internal format, and many of the fields are binary. The output file is made up of three sections with one or more data rows in each.

- Section 1 describes general information about the data source used to create the exported data.
- Section 2 contains a dictionary required for mapping the data.
- Section 3 contains the actual data rows.

The historical data is maintained in relational tables. Therefore, the dictionary mappings provide table and column information for every table that had data recorded for it in the persistent data store.

## Section 2 records

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Section 2 provides information about the tables and columns that are represented in Section 3. This section has a header record followed by a number of table and column description records.

### Dictionary header record

The dictionary header is the first Section 2 record (and therefore the second record in the data set). It provides general information about the format of the dictionary records that follow. It is used to describe how many tables are defined in the dictionary section.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The data layout for the dictionary header record follows.

Provides description, offset, length, and type for each field in the Section 2 dictionary header record.

<i>Table 105: Section 2 data record format, exported persistent data</i>				
Field	Offset	Length	Type	Description
RecID	0	4	Char	Record ID. Contains DD10 for header record 2.
Dictionary Len	4	4	Binary	Contains the length of the entire dictionary.
Header Len	8	4	Binary	Length of the header record.
Table Count	12	4	Binary	Number of tables in dictionary (1 record per table).
Column Count	16	4	Binary	Total number of columns described.
Table Row Len	20	4	Binary	Size of table row.

Field	Offset	Length	Type	Description
Col Row Len	24	4	Binary	Size of column row.
Expansion	28	28	---	Unused area.

#### Table description record

Each table in the exported data set has a table record that provides its name and identifier, and additional information about the columns. All table records are provided before the first column record. The column records and all of the data records in section 3 use the identifier number to associate it with the appropriate table.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The map length and variable column count fields can be used to determine exactly where the data for each column starts and to determine if the column exists in a record. The format of the table description record is described in the table that follows.

Provides description, offset, length, and type for each field in the Section 2 table record.

*Table 106: Section 2 table description record, exported persistent data*

Field	Offset	Length	Type	Description
RecID	0	4	Char	Record ID. Contains DD20 for table record.
Identifier Num	4	4	Binary	Unique number for this table.
Application	8	8	Char	Application name table belongs to.
Table Name	16	10	Char	Table name.
Table Version	26	8	Char	Table version.
Map Length	34	2	Binary	Length of the mapping area.
Column Count	16	4	Binary	Count of columns in the table.
Variable Cols	36	4	Binary	Count of variable name columns.
Row Count	40	4	Binary	Number of rows in exported file for this table.
Oldest Row	44	16	Char	Timestamp for oldest row written for this table.
Newest Row	64	16	Char	Timestamp for newest row written for this table.
Expansion	80	16	---	Unused area.

#### Column description record

One record exists for every column in the associated table record. Each record provides the column name, type, and other characteristics. The order of the column rows is the same order in which the columns are displayed in the output row. However, some columns might be missing on any given row. Use the mapping structure defined under section 3 to determine whether a column is present.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The format of the column records is described in the following table.  
Provides description, offset, length, and type for each field in a Section 2 column description record.

<i>Table 107: Section 2 column description record, exported persistent data</i>				
Field	Offset	Length	Type	Description
RecID	0	4	Char	Record ID. Contains DD30 for table record.
Table Ident	4	4	Binary	Identifier for the table this column belongs to.
Column Name	8	10	Char	Column name.
SQL Type	18	2	Char	SQL type for column.
Column Length	20	4	Binary	Maximum length of this column's data.
Flag	24	1	Binary	Flag byte.
Spare	25	1	---	Unused.
Overlay Col ID	26	2	Char	Column number if this is an overlay.
Overlay Col Off	28	2	Char	Offset into row for start of overlay column.
Alignment	30	2	---	Unused.
Spare 1	32	8	---	Unused.

### Section 1 record

The Section 1 record is not required for mapping the data in the exported file. However, it is useful for determining how to reallocate a data set when a persistent data store file must be reconstructed.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Section 1 contains a single data row used to describe information about the source of the data recorded in the export file. The data layout for the record follows.

Provides description, offset, length, and type for all fields in Section 1 of exported data records

<i>Table 108: Section 1 data record format, exported persistent data</i>				
Field	Offset	Length	Type	Description
RecID	0	4	Char	Record ID. Contains AA10 for header record 1.
Length	4	4	Binary	Contains the record length of the header record.
Timestamp	8	16	Char	Timestamp of export. Format: CYMMDDHHMMSSMMM
Group	24	8	Char	Group name to which the data belongs.
Data Store Ver	32	8	Char	Version of KPDMANE used to record original data.
Export Version	40	8	Char	Version of KPDARCH used to create exported file.
Total Slots	48	4	Binary	Number of blocks allocated in original data set.

Field	Offset	Length	Type	Description
Used Slots	52	4	Binary	Number of used blocks at time of export.
Slot Size	56	4	Binary	Block size of original data set.
Expansion Area	60	20	---	Unused area.
Data Store Path	80	256	Char	Name of originating data set.
Export Path	336	256	Char	Name of exported data set.

### Section 3 records

Section 3 has one record for every row of every table that was in the original persistent data store data set being exported. Each row starts with a fixed portion, followed by the actual data associated with the row. The length of the column map can be obtained from the table record (DD20). Each bit in the map represents one column. A **0** for the bit position indicates that the column data is not present, while a **1** indicates that data exists in this row for the column. Immediately following the column map field is an unaligned set of 2-byte-length fields. One of these length fields exists for every variable-length column in the table. This mapping information must be used to find the starting location for any given column in the data structure. The actual data starts immediately after the last length field.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

If you are dealing with overlay columns, use the column offset defined in the DD30 records to determine the starting location for this type of column. Do not worry about overlaid columns with extracted data. If you want to look at the actual content of an overlaid column, you can expand the data by reinserting any missing columns and expanding all variable length columns to the maximum length before doing the mapping.

The table that follows maps the fixed portion of the data.

Provides description, offset, length, and type for each field in the fixed portion of Section 3 records.

<i>Table 109: Section 3 record format, exported persistent data</i>				
Field	Offset	Length	Type	Description
RecID	0	4	Char	Record ID. Contains ROW1 for column record.
Table Ident	4	4	Binary	Identifier for the table this record belongs to.
Row Length	8	4	Binary	Total length of this row.
Data Offset	12	4	Binary	Offset to start of data.
Data Length	16	4	Binary	Length of data portion of row.
Column Map	20	Varies	Binary	Column available map plus variable length fields.

### Extracting persistent data store data to flat files

Historical data can be exported to a flat file in EBCDIC format. The data can then be loaded into spreadsheets or databases for reporting and analysis.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The format of the data is converted to tab-delimited columns. The data is written to separate files for each table; therefore, the data format for all rows in each data set is consistent. The program also generates a separate file. This file contains a single row that provides the column names in the order in which the data is organized. This file is also delimited for ease of use. An option (NOFF) on the KPDXTTRA program bypasses creating the separate file and places the column information as the first record of the data file.

This file is not tailored by the PARMGEN or Configuration Manager at installation time and must be modified to add pertinent information.

The output from this job is written to files with the following naming standard:

```
&hilev.&rte.tablename.D  
&hilev.&rte.tablename.H
```

The *tablename* is the first eight bytes of the actual table with any invalid characters changed to "#". The "D" suffix is for the data file and the "H" suffix is for the header file. Note that the NOFF parameter can be passed to the KPDXTTRA program to merge the data from the header file into the data file and therefore not create a unique header file. The high level and mid level qualifiers are passed as a parameter to the KPDXTTRA program (PREF=xxxx) and are therefore controlled by the KPDPROCC member in the RKANSAMU data set.

All data sets are kept in read/write state even if they are not active. This makes the data sets unavailable if the monitoring server is running. Jobs cannot be run against the active data sets and the inactive data sets must be taken offline.

You can remove a data set from the monitoring server by issuing the modify command:

```
F stcname,KPDCMD QUIESCE FILE=DSN:data set
```

If you must run a utility program against an active data store, issue a SWITCH command prior to issuing this QUIESCE command.

## Extracting persistent data store data to EBCDIC files

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Use this job to extract persistent data store data to EBCDIC files.

1. Copy *rhilev.rte.RKANSAMU(KPDXTTRAJ)*.
2. Update the JCL with the following values:

***rhilev***

High-level qualifier of the runtime environment where the persistent data store resides.

***pdsn***

Fully qualified name of the persistent data store data set to be extracted

***pref***

High-level qualifier for the extracted data

3. Add the parameters you want to use for this job

**PREF=**

Identifies the high-level qualifier for the output file. This field is required.

**DELIM=nn**

Identifies the separator character to be placed between columns. The default is 05.

**NOFF=**

If used, causes the format file not to be generated. The column names are placed into the data file as the first record.

**QUOTES**

Places quotation marks around character type of data

4. Submit the job.

**Format of extracted header and data file records**

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

**Header record**

The following example shows an extracted header file record:

```
TMZDIFF(int,0,4) WRITETIME(char,1,16) ORIGINNODE(char,2,128) QMNAME(char,3,48)
APPLID(char,4,12)
APPLTYPE(int,5,4) SDATE_TIME(char,6,16) HOST_NAME(char,7,48) CNTTRANPGM(int,8,4)
MSGSPUT(int,9,4)
MSGSREAD(int,10,4) MSGSBROWSD(int,11,4) INSIZEAVG(int,12,4) OUTSIZEAVG(int,13,4)
AVGMQTIME(int,14,4)
AVGAPPTIME(int,15,4) COUNTOFQS(int,16,4) AVGMQGTIME(int,17,4) AVGMQPTIME(int,18,4)
DEFSTATE(int,19,4)
INT_TIME(int,20,4) INT_TIMEC(char,21,8) CNTTASKID(int,22,4) SAMPLES(int,23,4)
INTERVAL(int,24,4)
```

Each field is separated by a tab character (by default). The data consists of the column name with a type, column number, and column length field within the parentheses for each column. The information within parentheses is used primarily to describe the internal formatting information, and therefore can be ignored.

**Data record**

The following example shows an extracted data file record for the preceding header file record:

```
0 "1000104003057000" "MQM7:SYSG:MQESA" "MQM7" "XCXS2DPL" 2 "1000104003057434"
"SYSG" 1 0 0 0 0 2 90007 0 2 0 1 96056 "016: 01" 1 1 900
```

The header file and the data file match up as follows:

Displays the field name, data, and data type.

<i>Table 110: Extracted data</i>		
Field name	Data	Data type
TMZDIFF	0	Integer
WRITETIME	"1000104003057000"	"Character"
ORIGINNODE	"MQM7:SYSG:MQESA"	"Character"
QMNAME	"MQM7"	"Character"
...	...	...
SAMPLES	1	Integer
INTERVAL	900	Integer

## Components of the persistent data store

The persistent data store consists of a set of components used for writing and retrieving historical data.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

### KPDMANE

KPDMANE is the primary executable program. It is a server for other applications running in the same address space. This program is designed to run inside the TMS:Engine address space as a separate subtask. Although it is capable of running inside the TMS:Engine, the program does not make any use of TMS:Engine services. This is because the KPDMAN program is also used in other utility programs that are intended to run in batch mode. KPDMANE is the program that eventually starts the maintenance task when it does a switch and determines that no empty data sets are available.

### KPDUTIL

This program is used primarily to initialize one or more data sets for persistent data store use. The program attaches a subtask and starts the KPDMANE program in it. The DD statements used when this program is run dictate what control files are executed by the KPDMANE program.

### KPDARCH

This client program pulls data from the specified data set and writes it out to a flat file. The program attaches a subtask and starts up the KPDMANE program in it. The output data is still in an internal format, with index information excluded.

### KPDREST

This client program reads data created by the KPDARCH program, inserts it into a data set in the correct format for use by the persistent data store, and rebuilds the index information. The program attaches a subtask and starts the KPDMANE program in it.

### KPDXTRA

This client program pulls data from a data set and writes it to one or more flat files, with all column data converted to EBCDIC and separated by tabs. This extracted data can be loaded into a database management system or into spreadsheet programs such as Excel. The program attaches a subtask and starts the KPDMANE program in it.

### KPDDSCO

This program communicates with the started task that is running the persistent data store and sends it commands. The typical command is RESUME, which tells the persistent data store that it can resume using a data set. The program can use two forms of communication:

- SNA protocol to connect to the monitoring server and submit command requests.
- SVC 34 to issue a modify command to the started task.

This program also logs information in a general log maintained in the persistent data store tables.

## Operation of the persistent data store

Maintenance is invoked automatically by the KPDMANE program.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The KPDMANE program invokes maintenance in two places:

- On startup, while reading and processing data sets, KPDMANE examines internal data to determine whether each data set is in a known and stable state. If not, KPDMANE issues a RECOVER command.
- When KPDMANE is recording information from applications onto an active data set for a group, if it detects that it is running out of room, it executes the SWITCH command internally.

## Command interface

The persistent data store uses a command interface to perform many of the tasks required for maintaining the data sets used for historical data. Most of these commands can be invoked externally through a command interface supported in the Engine environment.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

These maintenance commands can be executed by using the standard z/OS® MODIFY interface with the following format:

```
F stcname,KPDCMD command arguments
```

where

### ***stcname***

Is the started task name of address space where the persistent data store is running.

### ***command***

Is one of the supported dynamic commands.

### ***arguments***

Are valid arguments to the specified command.

## Maintenance commands

The persistent data store supports a number of commands used primarily for maintenance.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

### SWITCH command

This dynamic command causes a data store file switch for a specific file group. At any given time, update-type operations against tables in a particular group are directed to one and only one of the files in the group. That one file is called the active file. A file switch changes the active file for a group. In other words, the switch causes a file other than the currently active one to become the new active file.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

If the group specified by this command has only one file, or the group currently has no inactive file that is eligible for output, the switch is not performed.

At the conclusion of a switch, persistent data store starts the maintenance process for a file in the group if no empty files remain in the group.

The [NO]EXTRACT keyword can be used to force or suppress an extract job for the data store file deactivated by the switch.

### Syntax

```
SWITCH          GROUP=groupid [ EXTRACT | NOEXTRACT ]
```

where

#### *groupid*

Specifies the ID of the file group that is to be switched. The group must have multiple files assigned to it.

#### EXTRACT

Specifies that the deactivated data store file is to be extracted, even if the file's GROUP statement did not request extraction.

#### NOEXTRACT

Specifies that extraction is not to be performed for the deactivated data store file. This option overrides the EXTRACT keyword of the GROUP statement.

Note that if neither EXTRACT nor NOEXTRACT is specified, the presence or absence of the EXTRACT keyword on the file's GROUP statement determines whether extraction is performed as part of the switch.

**SWITCH logic**The SWITCH command looks at all data sets assigned to the group and attempts to find an empty one. If no empty data sets are available, future attempts to write data to any data set in the group will fail. Normally, an empty data set is found and is marked as the active data set.

When a data set is deactivated because it is full, it is tested to see whether the EXTRACT option was specified. If so, the EXTRACT command for the data set is executed.

The next test is to check whether there are any empty data sets in the current group. If not, the code finds the data set with the oldest data and marks it for maintenance. With the latest release of the persistent data store, the code checks to see whether any of the maintenance options BACKUP, EXPORT, or EXTRACT were specified for this data set. If not, the INITDS command is executed. Otherwise, the BACKUP command is executed.

### BACKUP command

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

This command causes a maintenance task to be started for the data store file named on the command. The maintenance task typically deletes, allocates and initializes a data store file, optionally backing up or exporting the file before deleting it. (The optional export and backup steps are requested through parameters on the data store file's GROUP command in the RKPDI file.)

### Syntax

```
BACKUP FILE=DSN:dsname
```

where

#### *dsname*

Specifies the physical data set name of the file that is to be maintained.

**BACKUP logic**This code quiesces and closes the data set. A test is made to see whether either BACKUP or EXPORT is specified for the data set and appropriate options are set for the started task. The options always include a request to initialize the data set. An SVC 34 is issued to start the KPDPROC1 procedure. The code returns to the caller, and the data set is unavailable until the RESUME command is executed.

### ADDFILE command

The ADDFILE command is used to dynamically assign a new physical data store file to an existing file group. The command can be issued any time after the persistent data store initialization has completed in the Tivoli

Enterprise Monitoring Server. It can be used to increase the number of files assigned to a group or to bring old data back online. It cannot, however, be used to define a new file group ID. It can be used to add files only to groups that already exist as the result of GROUP commands in the RKPDIIN input file.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

### Syntax

```
ADDFILE  GROUP=groupid  FILE=DSN:dsname  [ RO ]  [ BACKUP ]  
  [ ARCHIVE ]
```

where

#### *groupid*

Specifies the unique group ID of the file group to which a file is to be added.

#### *dsname*

Specifies the fully qualified name (no quotation marks) of the physical data set that is to be added to the group specified by *groupid*.

#### RO

Specifies that the file is to be read-only (that is, that no new data can be recorded to it). By default, files are not read-only (that is, they are modifiable). This parameter can also be specified as READONLY.

#### BACKUP

Specifies that the file is to be copied to disk or tape before being reallocated by the automatic maintenance task. (Whether the copy is to disk or tape is a maintenance process customization option.) By default, files are not backed up during maintenance.

#### ARCHIVE

Specifies that the file is to be exported before being reallocated by the automatic maintenance task. By default, files are not exported during maintenance.

### DELFILE command

The DELFILE command is used to drop one physical data store file from a file group's queue of files. It can be issued any time after persistent data store initialization has completed in the Tivoli Enterprise Monitoring Server.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The file to be dropped must be full, partially full, or empty; it cannot be the “active” (output) file for its group (if it is, the DELFILE command is rejected).

The DELFILE command is conceptually the opposite of the ADDFILE command, and is intended to be used to manually drop a file that was originally introduced by a GROUP or ADDFILE command. After a file has been dropped by DELFILE, it is no longer allocated to the Tivoli Enterprise Monitoring Server task and can be allocated by other tasks. Note that DELFILE does not physically delete a file or alter it in any way. To physically delete and uncatalog a file, use the REMOVE command.

### Syntax

```
DELFILE      FILE=DSN:dsname
```

where

#### *dsname*

Specifies the fully qualified (without quotation marks) name of the file that is to be dropped.

## EXTRACT command

The EXTRACT command causes an extract job to be started for the data store file named on the command. The job converts the table data in the data store file to delimited text format in new files, and then signals the originating Tivoli Enterprise Monitoring Server to resume use of the data store file.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

For each table extracted from the data store file, two new files are created. One file contains the converted data and one file contains a record describing the format of each row in the first file.

### Syntax

```
EXTRACT      FILE=DSN:dsname
```

where

#### *dsname*

Specifies the physical data set name of the file to have its data extracted.

**EXTRACT logic** The logic for this command is similar to the BACKUP logic, except that the only option specified is an EXTRACT run with no initialization performed on the data set.

## INITDS command

The INITDS command forces a data store file to be initialized in the address space where the persistent data store is running.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

### Syntax

```
INITDS      FILE DSN:dsname
```

where

#### *dsname*

Identifies the data set name of the data store file to be initialized.

## RECOVER command

The RECOVER command causes a recovery task to be started for the data store file named on the command. The recovery task attempts to repair a corrupted data store file by exporting it, reallocating and initializing it, and restoring it. The restore operation rebuilds the index information, the data most likely to be corrupted in a damaged file. The recovery is not guaranteed to be successful, however; some severe forms of data corruption are unrecoverable.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

## Syntax

```
RECOVER      FILE=DSN: dsname
```

where

### *dsname*

Specifies the physical name of the data set to be recovered.

**RECOVER logic**This code quiesces the data set and closes the file. Information is set up to request an ARCHIVE, INIT, and RESTORE operation to be performed by the maintenance procedures. An SVC 34 is issued for a START command on KPDPROC1 (or its overridden name). The command exits to the caller, and the data set is unusable until a RESUME command is executed.

## RESUME command

The RESUME command is used to notify the persistent data store that it can once again make use of the data set specified in the arguments. The file identified must be one that was taken offline by the backup, recover, or extract commands.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

## Syntax

```
RESUME      FILE=DSN: dsname
```

where

### *dsname*

Specifies the physical name of the data set to be brought online.

**RESUME logic**This code opens the specified data set name and verifies that it is valid. The data set is taken out of the quiesce state and made available for activation during the next SWITCH operation.

## Other useful commands

The commands in this section can be used to obtain information about the persistent data store and the data sets in the store, and to flush buffered data to disk.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The commands are described in the following sections.

## QUERY CONNECT command

The QUERY CONNECT command displays a list of applications and tables that are currently defined in the persistent data store. The output of this command shows the application names, table names, total number of rows recorded for each table, the group the table belongs to, and the current data set that the data is being written to.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

## Syntax

```
QUERY CONNECT <ACTIVE>
```

where

### ACTIVE

Is an optional parameter that displays only those tables that are active. An active table is one that has been defined and assigned to an existing group, and the group has data sets assigned to it.

## QUERY DATASTORE command

The QUERY DATASTORE command displays a list of data sets known to the persistent data store. For each data set, the total number of allocated blocks, the number of used blocks, the number of tables that have data recorded, the block size, and status are displayed.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

## Syntax

```
QUERY DATASTORE <FILE=DSN:datasetname>
```

where

### FILE

Optional parameter that allows you to specify that you are only interested in the details for a single data set. When this option is used, the resulting display is changed to show information that is specific to the tables being recorded in the data set.

## COMMIT command

This dynamic command flushes to disk all pending buffered data. For performance reasons, the persistent data store does not immediately write to disk every update to a persistent table. Updates are buffered in virtual storage. Eventually the buffered updates are flushed (written to disk) at an optimal time. However, this architecture makes it possible for persistent data store files to become corrupted (not valid) if the files are closed prematurely, before pending buffered updates have been flushed. Such premature closings might leave inconsistent information in the files. The COMMIT command is intended to limit the exposure to data store file corruption. Some applications automatically issue this command after inserting data.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The following known circumstances might cause corrupted files:

- Severe abnormal monitoring server terminations that prevent the persistent data store recovery routines from executing
- IPLs performed without first stopping the monitoring server

## Syntax

```
COMMIT
```

## Setting up RAS1 tracing for persistent data store activity

RAS1 tracing is the primary diagnostic tool for product and infrastructure components. For tracing persistent data store activity, the RAS1 trace needs to be set where the collection takes place, that is, in either the agent or the monitoring server address space. RAS1 tracing can be set dynamically in the IBM® Tivoli® Monitoring Service Console interface or by a more direct method of modifying the KBB\_RAS1 parameter.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

For agents that run in their own address space, the KBB\_RAS1 parameter is located in *hilev.rte.RKANPARU(KppENV)* member, where *pp* is the two-letter product code. For agents that run in the monitoring server address space, like OMEGAMON for z/OS or OMEGAMON for Storage, the KBB\_RAS1 parameter is located in *hilev.rte.RKANPARU(KppENV)*. If you modify the KBB\_RAS1 parameter by directly editing the ENV file, you must stop and restart the monitoring server. To change the trace settings without having to recycle the monitoring server, use the Service Console interface **ras1** command.

RAS1 messages are sent to STDOUT and redirected to the files shown in [“Locations of log and trace information for z/OS® components” on page 1216](#).

Location of logs for z/OS components.

Component	Component description and location
Monitoring agents	<p>The RKLVLLOG for the monitoring agent started task is the single most helpful piece of service information for an agent. The RKL (R = runtime, KLV = the prefix associated with IBM® Tivoli® Monitoring Services:Engine or TMS:Engine) is the sysout data set or spool file that contains log and trace messages.</p> <p>These additional zSeries® log files (if available) are also useful:</p> <ul style="list-style-type: none"> <li>• The RKLVSnap sysout data set or spool file contains formatted dump output.</li> <li>• The RKPDLLOG sysout data set or spool file contains the information and error messages related to the handling of persistent datastores.</li> <li>• Some agents have other files defined to collect log and trace messages.</li> </ul> <p>Refer to your started procedures for the locations of these serviceability log files.</p>
Tivoli Enterprise Monitoring Server on z/OS®	The Tivoli Enterprise Monitoring Server runs under TMS:Engine just as an agent does, and the logging is handled in the same way: log and trace data are written to RKLVLLOGs and RKPDLLOGs.
End-to-End Response Time Feature	The End-to-End Response Time Features is a base component and does not have its own RKLVLLOG file. This component writes messages to the IBM® System Display and Search Facility (SDSF) Job Log.
IBM® Tivoli® Management Services:Engine (TMS:Engine)	<p>TMS:Engine is a collection of basic operating system and communication service routines built specifically for z/OS®. All address spaces used by monitoring agents load and use the services of TMS:Engine.</p> <p>TMS:Engine writes messages to the same RKLVLLOG file as the product it is running. In the RKLVLLOG file, product-specific messages start with the product code (for example, KM5 or KM2 for OMEGAMON for z/OS monitoring agent). The messages for the Tivoli Enterprise Monitoring Server start with KDS. The messages for the TMS:Engine itself start with that component prefix, KLV.</p>

Component	Component description and location
OMEGAMON® Subsystem	The OMEGAMON® Subsystem does not allocate an RKLVLOG. This component issues messages directly to either the SYSPRINT or the SYSTRACE output allocation of the Subsystem procedure.
Persistent data store	The RKPLOG SYSOUT data set or spool file contains the information and error messages related to the handling of persistent data stores.

RAS1 trace log files can grow very large with the wrong amount of filtering. Be careful with the levels of tracing that you specify.

## Setting trace levels by editing RKANPARU(KppENV)

One of the simplest ways to set trace levels for an agent or monitoring server is to edit the *rhilev.rte.RKANPARU(KppENV)* member.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

For RAS1 tracing of persistent datastore activity in an agent collector address space, add (UNIT:kraahbin ST) to the default KBB\_RAS1=ERROR setting as shown in the following example:

```
KBB_RAS1=ERROR (UNIT:kraahbin ST)
```

For RAS1 tracing in the monitoring server collector address space, add (UNIT:KFASPHST ST) to the default KBB\_RAS1=ERROR setting as shown in the following example:

```
KBB_RAS1=ERROR (UNIT:KFASPHST ST)
```

These commands trace all write activity with the count of records written during the write.

After you add the command, you must stop and restart the address space for the command to take effect. After that, the setting remains in effect for the life of the address space. To end the trace, you must edit the file again to reset the trace level, and stop and restart the address space.

## Setting trace levels dynamically from the IBM® Tivoli® Monitoring Service Console

You can use the IBM® Tivoli® Monitoring Service Console to set trace levels for monitoring agents on z/OS®, as well as for a Tivoli® Enterprise Monitoring Server on z/OS® or for distributed components. Using the service console, you can read logs and turn on traces for remote product diagnostics and configuration. If you use the Service Console, you can change trace levels without recycling the monitoring server or other components.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The Service Console is uniquely identified by its service point name. All Service Consoles for a host are linked and presented on the IBM® Tivoli® Monitoring Service Index for that host. You can perform operations on a specific component process by selecting the service console associated with the service point name of the component.

**Note:** Enabling tracing may cause large amounts of trace data and degrade performance, so only turn on tracing for the minimal amount of time as required to do problem determination.

## Accessing the Service Console from a browser

You can access the Service Console from a browser window.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

Use the following procedure to start the service console:

1. Start the browser.
2. In the **Address** field, type the URL for the IBM Tivoli Monitoring browser client:

```
http://hostname:1920
```

where hostname specifies the system where the process (monitoring server, portal server, Warehouse Proxy Agent, Tivoli® Data Warehouse, or monitoring agent) is installed. (1920 is the IBM default port, which may be reconfigured by the system administrator.) If the service console is not displayed, a system administrator might have blocked access to it.

3. On the IBM® Tivoli® Monitoring Service Console window, select the desired component process (service point name). A popup window appears, asking for the user ID and password.
4. Supply the required information, then click **OK**.

The IBM® Tivoli® Monitoring Service Console performs user authentication using the native OS security facility. If you use the IBM® Tivoli® Monitoring Service Console on z/OS® systems, your user ID and password are checked by the z/OS® security facility. If you use the IBM® Tivoli® Monitoring Service Console on Windows™ systems, then you must pass the Windows™ workstation user ID and password prompt. This is the rule except for instances of a NULL or blank password. The IBM® Tivoli® Monitoring Service Console never accepts a NULL or BLANK password.

A password is always required to access the service console. Blank passwords, even if correct, cannot access the service console. Even if a user ID is allowed to login to the operating system without a password, access to the service console is denied. Create a password for the user ID that is being used to login to the service console.

You can issue service console commands in the command input area. For a list of available commands, type a question mark (?) and click **Submit**.

## Accessing the Service Console through the Enhanced 3270 user interface

You can access the Service Console from the ITM Service Index workspace in the Enhanced 3270 user interface.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

To use the ITM Service Console workspace, you must supply a user ID and password. This information is sent to a Tivoli® Enterprise Monitoring Server. The user ID and password (and the Service Console or SOAP commands and their results) are normally sent in clear text using TCP/IP and the HTTP protocol. If you want the password and ID to be sent in encrypted form instead of clear text, you must use the secure version of this workspace. To use the secure versions of these workspaces, the address space must be enabled to use the Hypertext Transfer Protocol Secure (HTTPS) communications protocol.

To access the ITM Service Index (KOBHNDX) workspace, use one of the following methods:

### Procedure

1. Navigate to the KOBHUBS workspace by entering =KOBHUBS on the command line.
2. Use either of the following options.
  - Place your cursor next to the name of the hub Tivoli® Enterprise Monitoring Server that you are interested in, type / and press **Enter**, then select either ITM Service Index for Hub or ITM Service Index for Hub (secure HTTPS) from the Options Menu.
  - Place your cursor next to the name of the hub Tivoli® Enterprise Monitoring Server that you are interested in, and enter I for HTTP connection to the ITM Service Index or J for HTTPS connection to service index, if enabled.

## Result

The ITM Service Index workspace is displayed.

## Service Console commands

The Service Console supports the **ras1** command, which is especially useful for dynamically enabling and disabling RAS1 traces. The documentation requests from IBM® Software Support may conflict with your availability requirements. The **ras1** command can be used to alter KBB\_RAS1 tracing parameters dynamically without the need to recycle the product. The Service Console also supports the **bss1** command, which is also useful for troubleshooting.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

For example, you can issue the following **ras1** command from the Service Console to enable the kpx trace, :

```
ras1 set (UNIT:kpx ALL)
```

After you capture this trace, you can disable it with the following service console command:

```
ras1 set (UNIT:kpx ANY)
```

The **ras1** command is paired with one of the following subcommands:

### **log**

Display RAS1 log capture buffer.

### **list**

List the RAS1 filters in effect.

### **set serviceunit**

Control traces and filters for *serviceunit*

To see what tracing is already in effect, submit the following command:

```
ras1 list
```

### **Note:**

1. The information inside the parentheses may be case-sensitive. Use the values provided by IBM® Software Support.
2. The settings set by Service Console commands remain in effect for the current activation of the product. After the product is recycled, the original trace settings are restored.

The **bss1** command manages BSS1 (Basic System Services). The command is paired with one of the following subcommands:

## listenv

Display the resident TMS:Engine variables.

## getenv envvar

Display environment variable, where *envvar* is any variable that can be returned from **listenv**.

## setenv envvar

Assign an environment variable where *envvar* is any variable that can be returned from **listenv**.

## info

Display BSS1\_Info() data

## config debugenv

Modifies the settings of the TMS:Engine debug environment variables: RES1\_DEBUG, KDH\_DEBUG, KDC\_DEBUG, and KDE\_DEBUG. The possible values, from most to least tracing messages, are: M (Max), D (Detail), Y (Yes) and N (Nominal). For example, the following **config** command alters the setting of KDC\_DEBUG:

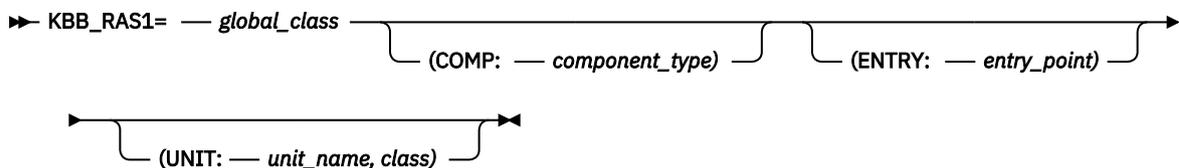
```
BSS1 CONFIG KDC_DEBUG=Y
```

## Syntax for RAS1 traces

This syntax is used to specify a RAS1 trace in the *rhilev.rte.RKANPARU(KppENV)* file. An IBM Software Support representative can tell you the values to set for the RAS1 trace parameters.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

The basic syntax of the RAS1 trace command is:



where:

### global\_class

Indicates the level of tracing that you want. This is a global setting that applies to all RAS1 filters in the process. If you set this global class by itself, it is global in scope and the trace cannot filter on any of the other keywords. Separate combined classes with a space. The following values are possible. Valid abbreviations are in parentheses.

- **ERROR (ER):** returns severe error messages only (this is the default for most applications).
- **STATE (ST):** records the condition or current setting of flags and variables in the process. If state tracing is enabled, you can see the current state of particular variables or flags as the process is running.
- **FLOW (FL):** causes a message to be generated at an entry or exit point of a function.
- **DETAIL (DE):** produces a detailed level of tracing.
- **INPUT (IN):** records data created by a particular API, function, or process.
- **ALL:** causes all available messages to be recorded. This setting combines all the other forms of tracing.

### COMP

Indicates that the trace includes a component type. The COMP keyword is used to trace groups of routines related by function (or component). Use this keyword only at the explicit request of an IBM Software Support representative.

#### **component\_type**

Identifies a component type. An IBM Software Support representative can tell you what value to specify.

#### **ENTRY**

Narrows a filtering routine to specify a specific ENTRY POINT. Since multiple entry points for a single routine are rare, use this keyword only at the explicit request of an IBM Software Support representative.

#### **entry\_point**

Represents the name of the entry point. An IBM Software Support representative can tell you what value to specify.

#### **UNIT**

Indicates that the trace is to look for a match between the compilation unit dispatched and the fully or partially qualified compilation unit specified on the RAS1 statement. A match results in a trace entry.

#### **unit\_name**

Represents the name of the compilation unit. In most instances, this name defines the component that is being traced. The value is likely to be the three-character component identifier for the monitoring agent (*Kpp*).

#### **class**

One of the same values specified for *global\_class*, but, because of its position inside the parentheses, narrowed in scope to apply only to the *unit\_name* specified.

**Note:** The default setting for monitoring agents on z/OS® is KBB\_RAS1=ERROR, meaning that only error tracing is enabled. You can specify any combination of UNIT, COMP, and ENTRY keywords. No keyword is required. However, the RAS1 value you set with the global class applies to all components.

## **Redirecting output of RAS1 tracing**

Nearly all diagnostic information for the z/OS® components is delivered by the RAS1 component. This component is configured by the KBB\_RAS1 environment variable in member KBBENV of RKANPARU. You can redirect the initialization member using the TMS:Engine INITLIST processing. INITLIST processing is always echoed to the RKLVLLOG with the KLVIN411 message.

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

This example shows a typical KBBENV override to a different member, KDSENV:

```
KLVIN410 INITLIST MEMBER KDSINIT BEING PROCESSED
KLVIN411 KLVINNAM=KDSINNAM
KLVIN411 KLVINTB=KDSINTB
KLVIN411 KLVINVLG=KDSINVLG
KLVIN411 KLVINNAF=KDSINNAF
KLVIN411 KLVINVPO=KDSINVPO
KLVIN411 KLVINSTG=KDSINSTG
KLVIN411 KLVINVAM=KDSINVAM
KLVIN411 KBBENV=KDSENV
```

In this example, configuration of KBB\_RAS1 is recorded in member KDSENV of RKANPARU.

## Resizing persistent data store files

After you have used historical data collection for a while, you might determine that the amount of space allocated initially is not sufficient. In this case, you can change the size of the file allocation.

### About this task

**Important:** The content in this section was created for and applies to the original persistent data store, referred to as PDS V1. A new PDS version (referred to as PDS V2) now exists. PDS V1 will eventually be deprecated.

There are two ways to increase the amount of space allocated to historical data collection files:

- Change the total amount of space allocated for the persistent data store libraries and overhead information
- Add additional files to the data set

You change the amount of space allocated to the persistent data store by editing the **Kpp\_PD\_CYL** parameter in the RTE configuration profile. However, editing the parameter does not necessarily mean that the files are automatically resized based upon the new allocation.

There are two processes that re-initialize the persistent data stores. One process runs inside the address space and does not redefine the files, so their size does not change. The other process is a batch process that deletes and redefines the files. The following parameter flags in the RTE configuration profile force the batch process:

#### RTE\_PDS\_BATCHINT\_FLAG

The default is N. If this flag is set to Y, the batch process is run and the files are deleted and redefined.

#### RTE\_PDS\_BACKUP\_FLAG

The default is N. If this flag is set to Y, the batch process is run so a backup of the data in the persistent data store can be made.

#### RTE\_PDS\_EXPORT\_FLAG

The default is N. If this flag is set to Y, the batch process is run so an archive of the data in the persistent data store can be made.

If all these flags are set to N, you have to delete the data sets and recreate them by using Submit batch jobs to complete the PARMGEN reconfiguration process.

Another way to add more space is to increase the value of the product-specific parameter **Kpp\_PDS\_FILE\_COUNT**. To determine the allocation size for each file, the configuration software divides the total **Kpp\_PD\_CYL** allocation by the file count. If you decide to use this method, then after you run the Submit job and everything completes successfully you add one or more files by issuing a modify command against the address space:

```
/F stc_name,KPDCMD ADDFILE GROUP=groupid FILE=DSN:dsname
```

Where:

#### **groupid**

Specifies the unique group ID of the file group to which a file is to be added.

#### **dsname**

Specifies the fully-qualified name (no quotation marks) of the physical data set that is to be added to the group specified by *groupid*.

## Persistent data store V2 (PDS V2)

The *persistent data store* (PDS) is a set of files used for storing and retrieving near-term historical data. The content in this section applies to the new persistent data store, referred to as PDS V2.

**Note:** PDS V2 replaces PDS V1, and certain behaviors differ significantly from PDS V1. If you have used PDS V1, it is recommended that you review [“Differences between PDS V1 and PDS V2” on page 1224](#).

With PDS V2, when collecting historical data, you have the option to manage the data sets by space or by time. With space-based management mode, the amount of historical data in each data set depends on the size of the data set. With time-based management mode, each data set contains data for a single day. The specification of the mode depends on the Extent Constraint Removal (ECR) attribute of the SMS data class used when allocating the data sets. For more information, see [“Data set management modes” on page 1237](#).

PDS V2 activation and data set allocation settings (including the use of encryption) are managed through runtime environment and agent-specific parameters using Configuration Manager or PARMGEN. For more information, see [“Configuring PDS V2” on page 1237](#).

## About PDS V2 data sets and statuses

Review information about how the PDS V2 data sets function and related terminology.

In persistent data store V2 (PDS V2), the data sets are defined dynamically from within the Tivoli Enterprise Monitoring Server (the *monitoring server*) or the Tivoli Enterprise Monitoring Agent (the *monitoring agent*). The number and size of data sets per application is user-configurable, and a wraparound process is used to allocate and delete the data sets when switching from one data set to the next. PDS V2 data sets also support z/OS® data set encryption.

A history data set is *active* if it is currently being written to by a monitoring server or a monitoring agent. At any given time, update-type operations against tables in a particular application are directed to only one of the data sets available to the data store; this data set is the *active* data set. All other data sets defined to the data store for the application are referred as being *inactive*.

**Note:** In order for any maintenance (such as making a backup copy) to be performed on a data set, the data set must be inactive.

When the active data set runs out of space or at local midnight (depending on your configuration), an automatic data set *switch* occurs. The data set switch changes the active data set for an application to the *reserved* data set, which is a data set that has been designated by PDS V2 as the next available data set for the application.

After the switch occurs, in preparation for the next switch, PDS V2 allocates the next reserved data set. If the user-configurable number of data sets for the data store has been allocated and the data sets are full, the oldest data set is removed and replaced with a newly-allocated, empty data set with the same name of the deleted data set. This process of designating a reserved data set in advance allows the opportunity to address problems that might occur when allocating the data set.

**Note:** If a reserved data set is not available and cannot be allocated, the oldest data set is reused.

### PDS V2 data set statuses

A number of terms are used to describe the status of the PDS V2 data sets at any given time. The following list summarizes these terms.

#### active/inactive

A history data set is *active* if it is currently being written to by a monitoring server or monitoring agent. All other data sets defined to the data store for the application are referred as being *inactive*.

#### empty/partial/full

A data set is *empty* if no historical data has been written to it. A data set is *partial* if some historical data has been written to it and there is still space available. A data set is *full* when there is not enough space for additional historical data to be written to it.

#### read/write

A data set is in *read* mode typically when it is allocated to the data store but is inactive. A data set is typically in *write* mode when it is the active data set.

#### reserved

A *reserved* data set is an empty data set that is the target data set when a switch occurs. There is usually one reserved data set for an application, but there could be more when PDS V2 starts for the first time. The

purpose of the reserved data set is so that the next switch is successful; if there are issues when allocating the data set, the problem can be addressed before the data set is needed, avoiding possible write failures.

## Differences between PDS V1 and PDS V2

Version 2 of the persistent data store (PDS V2) replaces the original persistent data store (PDS V1). This topic outlines some of the differences between PDS V1 and PDS V2.

PDS V2 provides enhancements for near-term history collection in the OMEGAMON® products. For example, PDS V2 uses significantly less 31-bit virtual storage and less CPU usage than PDS V1, and has resulted in improved performance. In addition, PDS V2 uses VSAM linear data sets, whereas PDS V1 uses BSAM data sets.

If the Tivoli Enterprise Monitoring Server or the Tivoli Enterprise Monitoring Agent is running on z/OS® 2.2 with APAR OA50569 or later, then PDS V2 is automatically used instead of the original PDS V1.

The following table summarizes differences between PDS V2 and the original PDS V1:

Characteristic	PDS V1	PDS V2
<b>Underlying data set type</b>	BSAM	VSAM Linear Data Sets (LDSs)
<b>Supported z/OS® version</b>	Any z/OS® version	Requires z/OS® 2.2 with APAR OA50569 or later
<b>How data sets are allocated</b>	The user runs a batch job.	The data sets are defined dynamically from within the monitoring server or the monitoring agent. For more information, see <a href="#">“About PDS V2 data sets and statuses” on page 1223</a> .
<b>Action when a data set is full</b>	Recording rolls over to the next data set. A batch job is generated automatically to allocate a new data set.	For space-based mode (ECR=NO), the switch to the next empty data set occurs when the current data set runs out of space. No extents are taken when the current data set is full. For time-based mode (ECR=YES), each LDS contains data for a single 24-hour period. When an LDS is full and cannot be extended, recording rolls over to the next data set and less than 24 hours of data may be present in the data set.
<b>Virtual storage usage</b>	Uses 31-bit virtual storage heavily	The monitoring server and the monitoring agent use 64-bit virtual storage above the bar.
<b>Data set name low-level qualifier</b>	For the monitoring server: RppSGRPn RPDSGRPn RGENHISn  For monitoring agents: RKppaaan  where: <ul style="list-style-type: none"> <li>pp is the two-character OMEGAMON product or component code</li> <li>aaa varies by product</li> <li>n is a sequential identifier number (0-9, A-Z)</li> </ul> See <a href="#">“PDS data set names” on page 1225</a> for more information.	Gppmnnnn, Hppmnnnn where: <ul style="list-style-type: none"> <li>pp is the two-character OMEGAMON product or component code</li> <li>m is the granularity level (0-4). This information is for internal use.</li> <li>nnnn is a sequential, rotating number (0-9, A-Z), or CONF for the configuration file</li> </ul> See <a href="#">“PDS data set names” on page 1225</a> for more information.

Characteristic	PDS V1	PDS V2
<b>Attribute groups</b>	The data written to the persistent data store is organized by tables (attribute groups), groups, and data sets. Each table is assigned to a group. Multiple tables can be assigned to each group, and each group can have one or more data sets assigned to it. By default, six data sets are assigned to a group.	Attribute groups are no longer organized into separate groups, and data sets are no longer assigned to groups. Instead, all attribute groups for an application are effectively in a single data store group.
<b>Extended address volume (EAV) support</b>	Does not support EAV	Supports EAV
<b>z/OS® data set encryption support</b>	Does not support z/OS® data set encryption	Supports z/OS® data set encryption
<b>Management and maintenance</b>	Manual process	Self-managed

## PDS V2 restrictions

This topic identifies some features that are not available in PDS V2.

Some features that are provided in PDS V1 are not available in PDS V2, as follows:

- Some PDS maintenance features available with PDS V1 do not apply or are not available with PDS V2. For example, you cannot extract persistent data store data to a flat file with PDS V2, as provided with the PDS V1 EXTRACT function.
- PDS V2 does not have an equivalent operator command for the PDS V1 KPDCMD **QUERY CONNECT** command.

## PDS data set names

This topic lists the data set names for both PDS V1 and PDS V2.

The naming conventions for the persistent data store (PDS) data sets are different between PDS V1 and PDS V2. The following tables provide the PDS V1 and PDS V2 file naming conventions for collections running in the Tivoli Enterprise Monitoring Server address space (see [“PDS data set names for the monitoring server” on page 1226](#)) and in the Tivoli Enterprise Monitoring Agent address space (see [“PDS data set names for monitoring agents” on page 1226](#)).

Table 113: PDS data set names for the monitoring server			
Product or component	Earliest version supports PDS V2	PDS V1 data set name	PDS V2 data set name
IBM Tivoli Monitoring on z/OS	6.3.0	<p>Data sets used for collection on the monitoring server:</p> <ul style="list-style-type: none"> <li>RppSGRPn</li> <li>RPDSGRPn</li> <li>RGENHISn</li> </ul> <p>where:</p> <ul style="list-style-type: none"> <li>pp is the two-character OMEGAMON product or component code</li> <li>n is a sequential identifier number (0-9, A-Z). The default values set by PARMGEN are 1-6.</li> </ul>	<p>Data sets used for collection on the monitoring server:</p> <ul style="list-style-type: none"> <li>Gppmnnnn (for monitoring agent collection running in the monitoring server address space)</li> <li>HPDmnnnn</li> </ul> <p>where:</p> <ul style="list-style-type: none"> <li>pp is the two-character OMEGAMON product or component code</li> <li>m is the granularity level (0-4). This information is for internal use.</li> <li>nnnn is a sequential, rotating number (0-9, A-Z), or CONF for the configuration file</li> </ul>

Table 114: PDS data set names for monitoring agents			
Product or component	Earliest version supports PDS V2	PDS V1 data set name	PDS V2 data set name
For reference: PDS data set naming conventions for monitoring agents		<p>Data sets used for collection in the monitoring agent address space:</p> <ul style="list-style-type: none"> <li>RKppaaan</li> </ul> <p>where:</p> <ul style="list-style-type: none"> <li>pp is the two-character OMEGAMON product or component code</li> <li>aaa varies by product</li> <li>n is a sequential identifier number (0-9, A-Z). The default values set by PARMGEN are 1-6.</li> </ul>	<p>Data sets used for collection in the monitoring agent address space:</p> <ul style="list-style-type: none"> <li>Hppmnnnn</li> </ul> <p>where:</p> <ul style="list-style-type: none"> <li>pp is the two-character OMEGAMON product or component code</li> <li>m is the granularity level (0-4). This information is for internal use.</li> <li>nnnn is a sequential, rotating number (0-9, A-Z), or CONF for the configuration file</li> </ul>

Product or component	Earliest version supports PDS V2	PDS V1 data set name	PDS V2 data set name
IBM Z® OMEGAMON® for CICS®	5.5.0	RKC5HISn (collection running in agent address space) RKGWHISn (collection running in agent address space) RKCPHISn (collection running in monitoring server address space)	HC5mnnnn HGWmnnnn
		<div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> KCSHIST files for are CICS task history and are not part of the persistent data store.</p> </div>	
IBM Tivoli OMEGAMON® XE for Db2 Performance Expert on z/OS	5.4.0	RKD5HISn (collection running in agent address space) RKDPHISn (collection running in monitoring server address space)	HDPmnnnn
IBM OMEGAMON for IMS on z/OS	5.5.0	RKI5HISn (collection running in agent address space) RKIPHISn (collection running in monitoring server address space)	HI5mnnnn
IBM Z OMEGAMON AI for JVM	5.5.0	RKJJHISn	HJJmnnnn
IBM OMEGAMON for Messaging on z/OS	7.3.0	RKMQPDSn RKQIPDSn	HMQmnnnn HQImnnnn
IBM Z OMEGAMON AI for Networks	5.5.0	RKN3HISn	HN3mnnnn
IBM OMEGAMON for Storage on z/OS	5.5.0	RKDFDSAn RKDFDSBn RKS3DSAn	HDFmnnnn HS3mnnnn
		<div style="border: 1px solid blue; padding: 5px;"> <p><b>Note:</b> PDS V1 is no longer supported for IBM OMEGAMON for Storage on z/OS.</p> </div>	
IBM Z OMEGAMON AI for z/OS	5.5.0	RKM5LPRn RKM5PLXn	HM5mnnnn
IBM Z NetView Enterprise Management Agent	6.4.0	RKNAHISn	HNAmnnnn
IBM Tivoli Advanced Allocation Management for z/OS	3.3.0	RKRJHISn	HRJmnnnn
IBM Tivoli Advanced Audit for DFSMSshm	2.6.0	RKRGHISn	HRGmnnnn

Product or component	Earliest version supports PDS V2	PDS V1 data set name	PDS V2 data set name
IBM Tivoli Advanced Backup and Recovery for z/OS	2.4.0	RKRVHISn	HRVmnnnn
IBM Tivoli Advanced Catalog Management for z/OS	2.6.0	RKRNHISn	HRNmnnnn
IBM Tivoli Advanced Reporting and Management for DFSMSHsm	2.6.0	RKRHHISn	HRHmnnnn
IBM Tivoli Automated Tape Allocation Manager for z/OS	3.3.0	RKRKHISn	HRKmnnnn
IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics Agent	7.1.1	RKYNPDSn	HYNmnnnn

**Note:** After you have switched to PDS V2, PDS V1 data sets are no longer needed and can be deleted. For more information, see [“Removing PDS V1 data sets” on page 1237](#).

## PDS V2 activation

Review information about installing and activating PDS V2 for your historical collection.

PDS V2 is installed as part of OMNIMON Base V7.5.0. Additional maintenance is required for Configuration Manager, PARMGEN, and some individual OMEGAMON products.

**Note:** If you are setting up collection of your historical data for the first time, see [“PDS V2 for the first-time OMEGAMON user” on page 1235](#).

PDS V2 is fully activated by default. Unless steps are taken to postpone PDS V2 activation, all supported components will switch to PDS V2 when the runtime environment is refreshed.

If you are using PDS V1 and you need to delay your transition to PDS V2, you can [disable activation](#) and [enable it](#) when you are ready. If you have products in your environment that do not support PDS V2, you must disable PDS V2 activation for those products. You can implement an incremental rollout by activating PDS V2 for specific monitoring agents and then the monitoring server; it is recommended that the monitoring server be the last component activated for PDS V2.

**Warning:** When you switch from PDS V1 to PDS V2, near-term historical data that is in your PDS V1 is not migrated to PDS V2. It is possible that a day or two of data will be lost. You might consider the timing of your switch to PDS V2. For more information, see [“Considerations when switching from PDS V1 to PDS V2” on page 1235](#).

Activating the use of PDS V2 for historical collection occurs automatically after the initial startup of the monitoring server or monitoring agent after PDS V2 maintenance is applied.

**Important:** You can control the activation of PDS V2 for the monitoring server and each monitoring agent separately. Unless manual steps are taken to postpone PDS V2 activation, the switch from PDS V1 to PDS V2 occurs automatically.

If you currently use PDS V1 and choose to temporarily opt out of using PDS V2, see the following procedures:

- [“How to: Postpone PDS V2 activation” on page 1229](#)
- [“How to: Activate PDS V2” on page 1232](#)

Before proceeding, make sure to review [“Differences between PDS V1 and PDS V2” on page 1224](#).

**Warning:** You must opt out of PDS V2 activation before the initial startup of the monitoring server or monitoring agent. After switching to PDS V2, you cannot revert to PDS V1 without data loss.

## PDS V2 support

Review the earliest product versions that support PDS V2.

The following table provides the earliest version of the product or component that supports PDS V2.

<i>Table 115: Earliest product versions supporting PDS V2</i>	
Product or component	Earliest version that supports PDS V2
OMNIMON Base	7.5.0
IBM Tivoli Monitoring on z/OS	6.3.0
IBM Tivoli Management Server for Distributed Systems on z/OS	6.3.0
IBM Z® OMEGAMON® for CICS®	5.5.0
IBM OMEGAMON for Db2 Performance Expert	5.4.0
IBM OMEGAMON for IMS on z/OS	5.5.0
IBM Z OMEGAMON AI for JVM	5.5.0
IBM OMEGAMON for Messaging on z/OS	7.5.0
IBM Z OMEGAMON AI for Networks	5.5.0
IBM OMEGAMON for Storage on z/OS	5.5.0
IBM Z OMEGAMON AI for z/OS	5.5.0
IBM Z NetView Enterprise Management Agent	6.4.0
IBM Tivoli Advanced Allocation Management for z/OS	3.3.0
IBM Tivoli Advanced Audit for DFSMSshm	2.6.0
IBM Tivoli Advanced Backup and Recovery for z/OS	2.4.0
IBM Tivoli Advanced Catalog Management for z/OS	2.6.0
IBM Tivoli Advanced Reporting and Management for DFSMSshm	2.6.0
IBM Tivoli Automated Tape Allocation Manager for z/OS	3.3.0
IBM Tivoli Composite Application Manager (ITCAM) for Application Diagnostics Agent	7.1.1

## How to: Postpone PDS V2 activation

This topic describes how to disable PDS V2 activation. By disabling PDS V2 activation, you can postpone the use of PDS V2.

### Before you begin

This task applies to environments where historical data is collected using the original persistent data store, PDS V1.

If you have products in your environment that do not support PDS V2, you must postpone PDS V2 activation for those products. For more information about products that support PDS V2, see [“PDS data set names” on page 1225](#) and [“PDS V2 support” on page 1229](#).

**Warning:** When you switch from PDS V1 to PDS V2, near-term historical data that is in your PDS V1 is not migrated to PDS V2. It is possible that some data will be lost.

It is recommended that you review the appropriate topic:

- [“PDS V2 for the first-time OMEGAMON user” on page 1235](#)
- [“Considerations when switching from PDS V1 to PDS V2” on page 1235](#)

## About this task

With the application of the PDS V2 maintenance, PDS V2 is enabled by default for the monitoring server and the monitoring agents.

If you want to opt out of PDS V2 activation until you are ready to use it, or if you have products that do not support PDS V2, you must disable PDS V2 activation for the monitoring server or the respective monitoring agents by performing the following procedure before starting the monitoring server or monitoring agent.

**Warning:** You must opt out of PDS V2 activation for the monitoring server or a monitoring agent before the initial startup of the monitoring server or monitoring agent. After switching to PDS V2, you cannot revert to PDS V1 without data loss.

You can postpone PDS V2 activation for the monitoring server, all agents in the runtime environment (RTE), or for specific agents only, allowing for an incremental rollout of PDS V2.

**Note:** It is recommended that the monitoring server be the last component activated for PDS V2.

The following parameters control PDS V2 activation:

### **RTE\_PDS2\_ACTIVATION**

Controls PDS V2 support for the runtime environment.

If **RTE\_PDS2\_ACTIVATION** is set to Y, PDS V2 support is enabled for the runtime environment. By default, the monitoring server and all monitoring agents are activated to use PDS V2. You can control PDS V2 activation for a specific agent using the *Kpp\_PDS2\_ACTIVATION* parameter, and you can control PDS V2 activation for the monitoring server using the *KDS\_PDS2\_ACTIVATION* parameter.

If **RTE\_PDS2\_ACTIVATION** is set to N, PDS V2 activation is disabled for the runtime environment. In this case, parameters *Kpp\_PDS2\_ACTIVATION* and *KDS\_PDS2\_ACTIVATION* are ignored.

### **Kpp\_PDS2\_ACTIVATION**

Controls PDS V2 activation for a specific agent.

### **KDS\_PDS2\_ACTIVATION**

Controls PDS V2 activation for the monitoring server.

**Important:** For IBM OMEGAMON for Storage on z/OS, you cannot postpone PDS V2 activation. You must switch to the latest OMNIMON Base version of PDS V2. For more information, see [“Considerations for OMEGAMON for Storage users” on page 1236](#).

## Procedure

Postpone PDS V2 activation for either of the following scenarios:

- To postpone PDS V2 activation for the monitoring server and all agents in the runtime environment, disable PDS V2 globally for the runtime environment, as follows:
  - Using Configuration Manager:
    - a. Add **RTE\_PDS2\_ACTIVATION N** to `RTEDEF(rte_name)`.

- b. Run the **GENERATE** action.
  - c. Start the monitoring server or monitoring agent.
- Using PARMGEN:

**Note:** For details about performing each of the following steps, see [“Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults” on page 823.](#)

- a. Edit the configuration profile, as follows:
    - a. From the **Workflow - Primary Option Menu**, select option 2, **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members** (KCIP@PG6) panel is displayed.
    - b. Select option 1 to edit the RTE profile.
    - c. Set **RTE\_PDS2\_ACTIVATION** to N.
    - d. Save the changes and return to the **Workflow - Primary Options Menu** panel.
  - b. Regenerate the runtime members and jobs, as follows:
    - a. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** (KCIP@PR1) panel is displayed.
    - b. Select option 1 to submit the \$PARSE job (or the \$PARSESV job, if variables are enabled).
    - c. Return to the **Workflow - Primary Options Menu** panel.
  - c. Copy the runtime members from the work libraries to the production libraries, as follows:
    - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu.  
The **Submit Batch Jobs To Complete PARMGEN Setup** (KCIP@SUB) panel is displayed.
    - b. Optional: Select option 11 and submit the KCIJPCPR job to back up the production libraries.
    - c. Select option 12 and submit the KCIJPW2R job (or the KCIJPW1R job) to copy the work libraries to the production libraries.
  - d. Start the monitoring server or monitoring agent.
- To postpone PDS V2 activation for the monitoring server or one or more specific agents, disable PDS V2 for the server or agent, as follows:
    - Using Configuration Manager:
      - a. Add **RTE\_PDS2\_ACTIVATION Y** to RTEDEF (*rte\_name*).
      - b. To postpone activation for the monitoring server, add **KDS\_PDS2\_ACTIVATION N** to RTEDEF (KDS\$PARM) or RTEDEF (KDS\$lpar).
      - c. For each agent for which to postpone activation, add the corresponding **Kpp\_PDS2\_ACTIVATION N** to RTEDEF (Kpp\$PARM) or RTEDEF (Kpp\$lpar).
      - d. Run the **GENERATE** action.
      - e. Start the monitoring server or monitoring agent.

The following messages appear in KCIPRINT and reflect the status of your PDS configuration:

```
KFJ00223I Global RTE PDS V1 setting is ON
KFJ00224I Global RTE PDS V2 setting is ON
```

- Using PARMGEN:

**Note:** For details about performing each of the following steps, see [“Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults” on page 823.](#)

- a. Edit the configuration profile, as follows:
  - a. From the **Workflow - Primary Option Menu**, select option 2, **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members (KCIP@PG6)** panel is displayed.
  - b. Select option 1 to edit the RTE profile.
  - c. Set **RTE\_PDS2\_ACTIVATION** to Y.
  - d. To postpone activation for the monitoring server, add parameter **KDS\_PDS2\_ACTIVATION** set to N.
  - e. For each agent for which to postpone activation, set the corresponding **Kpp\_PDS2\_ACTIVATION** value to N.
  - f. Save the changes and return to the **Workflow - Primary Options Menu** panel.
- b. Regenerate the runtime members and jobs, as follows:
  - a. Select **Create the RTE members and jobs**.  
The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs (KCIP@PR1)** panel is displayed.
  - b. Select option 1 to submit the \$PARSE job (or the \$PARSESV job, if variables are enabled).
  - c. Return to the **Workflow - Primary Options Menu** panel.
- c. Copy the runtime members from the work libraries to the production libraries, as follows:
  - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu.  
The **Submit Batch Jobs To Complete PARMGEN Setup (KCIP@SUB)** panel is displayed.
  - b. Optional: Select option 11 and submit the KCIJPCPR job to back up the production libraries.
  - c. Select option 12 and submit the KCIJPW2R job (or the KCIJPW1R job) to copy the work libraries to the production libraries.
- d. Start the monitoring server or monitoring agent.

## How to: Activate PDS V2

This topic describes how to activate PDS V2. By activating PDS V2, you can start using the latest version of persistent data store. After PDS V2 is activated for all components, PDS V1 is disabled.

### Before you begin

**Important:** By default, PDS V2 is activated for the runtime environment, the monitoring server, and all monitoring agents. If you have not manually postponed PDS V2 activation for the runtime environment, monitoring server, or any of the monitoring agents, no additional action is required.

This task applies to environments where historical data is collected using the original persistent data store, PDS V1. Use this task if you have manually postponed PDS V2 activation for the runtime environment, monitoring server, or any of the monitoring agents.

Review the following important information before you attempt to activate PDS V2:

- Review the content in [“PDS V2 activation” on page 1228.](#)

- If you have products in your environment that do not support PDS V2, do not attempt to activate PDS V2 for those products. You must continue to use PDS V1 for products that do not support PDS V2. For more information about products that support PDS V2, see [“PDS data set names” on page 1225](#) and [“PDS V2 support” on page 1229](#).
- When you switch from PDS V1 to PDS V2, near-term historical data that is in your PDS V1 is not migrated to PDS V2. It is possible that some data will be lost.
- You must use PARMGEN or Configuration Manager to properly configure PDS V2; do not attempt to manually update your runtime environment settings to activate PDS V2. If you have manually configured any settings in your runtime environment prior to activating PDS V2, these settings will be lost when you refresh your runtime environment using PARMGEN or Configuration Manager.

**Important:** If you have manually updated any settings without using PARMGEN or Configuration Manager, it is recommended that you reconcile any discrepancies before continuing. If you are using PARMGEN, see [“Rectifying your PARMGEN configuration” on page 516](#) for more information.

If you are using PARMGEN, review the following scenarios:

- [“Scenario SMPE02: Applying SMP/E maintenance with configuration changes to an existing RTE and using IBM-supplied configuration defaults for new features” on page 820](#)
- [“Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults” on page 823](#)

**Note:** If you are using PARMGEN as your configuration tool, consider migrating to Configuration Manager, which provides a simplified configuration process. For more information, see [“Introduction to Configuration Manager” on page 215](#).

- It is recommended that you review the appropriate topic:
  - [“PDS V2 for the first-time OMEGAMON user” on page 1235](#)
  - [“Considerations when switching from PDS V1 to PDS V2” on page 1235](#)

## About this task

Activating the use of PDS V2 for historical collection is managed separately for the data collected on the monitoring server and data collected on monitoring agents. To use PDS V2 exclusively, PDS V2 must be activated for the runtime environment, all monitoring agents, and the monitoring server.

Although the use of PDS V2 is activated by default, activation for the runtime environment, the monitoring server, or one or more agents might have been [postponed](#).

The following parameters control PDS V2 activation:

### **RTE\_PDS2\_ACTIVATION**

Controls PDS V2 support for the runtime environment.

If **RTE\_PDS2\_ACTIVATION** is set to Y, PDS V2 support is enabled for the runtime environment. By default, the monitoring server and all monitoring agents are activated to use PDS V2. You can control PDS V2 activation for a specific agent using the **Kpp\_PDS2\_ACTIVATION** parameter, and you can control PDS V2 activation for the monitoring server using the **KDS\_PDS2\_ACTIVATION** parameter.

If **RTE\_PDS2\_ACTIVATION** is set to N, PDS V2 support is disabled for the runtime environment. In this case, parameters **Kpp\_PDS2\_ACTIVATION** and **KDS\_PDS2\_ACTIVATION** are ignored.

### **Kpp\_PDS2\_ACTIVATION**

Controls PDS V2 activation for a specific agent.

**Note:** If PDS V2 is activated for an agent, the PDS V1 data sets will not be allocated by default in the Configuration Manager **GENERATE** action or the respective PARMGEN allocation jobs.

## **KDS\_PDS2\_ACTIVATION**

Controls PDS V2 activation for the monitoring server.

**Important:** For PDS V2 to be activated for all components, all of these parameters (**RTE\_PDS2\_ACTIVATION**, **Kpp\_PDS2\_ACTIVATION**, and **KDS\_PDS2\_ACTIVATION**) must be set to Y. After PDS V2 is activated for all components, PDS V1 is disabled automatically, and the following message appears in RKLVLLOG:

```
KPQS237I KPQHINIT: PDS V2 IS RUNNING STAND-ALONE, PDS V1 IS DISABLED
```

With PDS V1 disabled, PDS V1 data sets are no longer used and can optionally be deleted. For more information, see [“Removing PDS V1 data sets” on page 1237](#).

Use the following procedure to activate the use of PDS V2 for monitoring agents or the monitoring server. It is recommended that the monitoring server be the last component activated for PDS V2.

### **Procedure**

Activate PDS V2 using one of the following methods:

- Using Configuration Manager:
  - a. In RTEDEF(*rte\_name*), add (or update, as appropriate) parameter **RTE\_PDS2\_ACTIVATION**, and set the value to Y. This will enable PDS V2 activation for the runtime environment.
  - b. If PDS V2 was previously deactivated for a supported monitoring agent, set the corresponding **Kpp\_PDS2\_ACTIVATION** value to Y in RTEDEF(*Kpp\$PARM*) or RTEDEF(*Kpp\$lpar*).
  - c. If PDS V2 was previously deactivated for the monitoring server, add parameter **KDS\_PDS2\_ACTIVATION** set to Y to RTEDEF(*KDS\$PARM*) or RTEDEF(*KDS\$lpar*).
  - d. Run the **GENERATE** action.  
The following messages appear in KCIPRINT and reflect the status of your PDS configuration:

```
KFJ00223I Global RTE PDS V1 setting is OFF  
KFJ00224I Global RTE PDS V2 setting is ON
```

- e. Start the monitoring server or monitoring agent.
- Using PARMGEN:

**Note:** For details about performing each of the following steps, see [“Scenario SMPE03: Applying SMP/E maintenance with new configuration changes to an existing RTE and overriding the IBM-supplied configuration defaults” on page 823](#).

- a. Edit the configuration profile, as follows:
  - a. From the **Workflow - Primary Option Menu**, select option 2, **Customize PARMGEN configuration profiles**.  
The **Customize PARMGEN Configuration Profile Members** (KCIP@PG6) panel is displayed.
  - b. Select option 1 to edit the RTE profile.
  - c. Set **RTE\_PDS2\_ACTIVATION** to Y, which will activate PDS V2 for the runtime environment.
  - d. If PDS V2 was previously deactivated for a supported monitoring agent, set the corresponding **Kpp\_PDS2\_ACTIVATION** value to Y.
  - e. If PDS V2 was previously deactivated for the monitoring server, add parameter **KDS\_PDS2\_ACTIVATION** set to Y.
  - f. Save the changes and return to the **Workflow - Primary Options Menu** panel.
- b. Regenerate the runtime members and jobs, as follows:
  - a. Select **Create the RTE members and jobs**.

- The **\$PARSE/\$PARSESV: Create the RTE Members and Jobs** (KCIP@PR1) panel is displayed.
- b. Select option 1 to submit the \$PARSE job (or the \$PARSESV job, if variables are enabled).
  - c. Return to the **Workflow - Primary Options Menu** panel.
  - c. Copy the runtime members from the work libraries to the production libraries, as follows:
    - a. Select **Submit batch jobs to complete PARMGEN setup** from the menu. The **Submit Batch Jobs To Complete PARMGEN Setup** (KCIP@SUB) panel is displayed.
    - b. Optional: Select option 11 and submit the KCIJPCPR job to back up the production libraries.
    - c. Select option 12 and submit the KCIJPW2R job (or the KCIJPW1R job) to copy the work libraries to the production libraries.
  - d. Start the monitoring server or monitoring agent.

## Result

If PDS V2 has been successfully activated for all components, PDS V1 is disabled automatically, and the following message appears in RKLVL0G:

```
KPQS237I KPQHINIT: PDS V2 IS RUNNING STAND-ALONE, PDS V1 IS DISABLED
```

With PDS V1 disabled, PDS V1 data sets are no longer used and can optionally be deleted. For more information, see [“Removing PDS V1 data sets” on page 1237](#).

**Important:** If you encounter problems when activating PDS V2 (such as receiving message [KPQS235E](#)), review your RKANPARU (KPQHINIT) member. If you have activated PDS V2 for all components, you should see the following settings:

```
PDSV1=OFF  
PDSV2=ON
```

If this is not the case, it is possible that you are attempting to use PDS V2 for a product that does not support PDS V2, or there is some other incorrect configuration. If not all of your products support PDS V2, you must continue to use PDS V1 for products that do not support PDS V2. To correct the problem, do not attempt to manually update this member. Instead, make sure that all of your products support PDS V2, and then use PARMGEN or Configuration Manager to configure PDS V2 again. If this does not resolve the problem, contact IBM® Software Support.

## PDS V2 for the first-time OMEGAMON user

Review this topic if you are a first-time OMEGAMON user.

PDS V2 is installed as part of OMNIMON Base V7.5.0. If you are setting up historical collection for your monitoring agents for the first time, you will only use PDS V2. PDS V2 is activated by default for the runtime environment, monitoring server, and the monitoring agents.

For PDS data set allocation settings, you can define the data set allocation parameters initially or simply use the default settings. For more information about supported customization, see [“PDS V2 parameters and members” on page 1238](#).

## Considerations when switching from PDS V1 to PDS V2

Review these considerations when switching from PDS V1 to PDS V2.

### Minimize data loss

**Warning:** When you switch to from PDS V1 to PDS V2, near-term historical data that is in your PDS V1 is not migrated to PDS V2. It is possible that a day or two of data will be lost.

When you switch to from PDS V1 to PDS V2, near-term historical data that is in your PDS V1 is not migrated to PDS V2. It is possible that a day or two of data will be lost. Because of this, consider the timing of your switch to PDS V2. For example, you could plan to switch to PDS V2 over the weekend so that your near-term data is available on Monday for the week.

### Initial configuration settings

With the application of the latest PDS V2 maintenance, PDS V2 is activated by default for the runtime environment, the monitoring server, and the monitoring agents. Unless manual steps are taken to postpone PDS V2 activation, all components will switch to PDS V2 when the runtime environment is refreshed.

The initial PDS V2 parameter values are taken from PDS V1 settings in your configuration, so you might want to review them:

#### RTE\_PDS2\_HILEV

If the value for this parameter does not match your current PDS V2 high-level qualifier, you will not be able to see old data and old data sets will no longer be used.

#### Kpp\_PDS2\_FILE\_COUNT

Adjust the value of this parameter to use 8 (eight); otherwise, the historical data storage capacity will be different from the one currently used.

#### Kpp\_PDS2\_STORE\_SIZE

Adjust this value according to your current settings, otherwise historical data storage capacity will be different from the current one.

If you want to make customizations, you need to change the PDS V2 parameters, as any change to PDS V1 parameters will not be honored after switching to PDS V2. If you need to customize PDS V2 parameters in Configuration Manager, you will need to add these parameters with the required values to the following members:

- For the monitoring agents: RTEDEF(Kpp\$PARM) or RTEDEF(Kpp\$lpar)
- For the monitoring server: RTEDEF(KDS\$PARM) or RTEDEF(KDS\$lpar)

Products that had two PDS V1 data stores will only have one consolidated PDS V2 data store with a size equal to the sum of the existing PDS V1 data stores (for example, KM5, KS3/KDF).

For more information about PDS V2 parameters, see [“PDS V2 parameters and members” on page 1238](#).

### Phased rollout

To do an incremental PDS V2 rollout, you would leave **RTE\_PDS2\_ACTIVATION** set to Y but set **Kpp\_PDS2\_ACTIVATION** to Y only for the specific agents you want to switch to PDS V2. For the agents that should remain using PDS V1, set the corresponding **Kpp\_PDS2\_ACTIVATION** parameter value to N.

PDS V2 for the monitoring server is also activated by default. It is recommended that the monitoring server be the last component switched to PDS V2. You can control PDS V2 activation for the monitoring server using the parameter **KDS\_PDS2\_ACTIVATION**.

**Important:** For IBM OMEGAMON for Storage on z/OS, you cannot postpone PDS V2 activation. You must switch to the latest OMNIMON Base version of PDS V2. For more information, see [“Considerations for OMEGAMON for Storage users” on page 1236](#).

If PDS V2 is enabled for an agent, the PDS V1 data sets will not be allocated by default in the Configuration Manager **GENERATE** action or the respective PARMGEN allocation jobs.

### Considerations for OMEGAMON for Storage users

For IBM OMEGAMON for Storage on z/OS, the IBM OMEGAMON for Storage internal version of PDS V2 and the use of PDS V1 are no longer available. IBM OMEGAMON for Storage users must use the OMNIMON Base version of PDS V2.

## After switching to PDS V2

- If you want to customize PDS V2, you need to change the PDS V2 parameters, as any PDS V1 parameters will not be honored after switching to PDS V2 (that is, the first Configuration Manager **GENERATE** run after the PTF installation or the first refresh of the PARMGEN work environment).
- After successfully switching to PDS V2 (including the monitoring server), you can remove all PDS V1 data sets. For more information, see [“Removing PDS V1 data sets” on page 1237](#).

**Note:** After successfully switching to PDS V2, the PDS V1 data sets will no longer be allocated by the Configuration Manager **GENERATE** action or in the respective PARMGEN allocation jobs.

## Removing PDS V1 data sets

This topic describes how to remove PDS V1 data sets after switching to PDS V2.

After a successful switch to PDS V2 (including the monitoring server), PDS V1 data sets are no longer needed and can be deleted.

A utility has been provided in TKANSAM (KFJMAINT) with action **DELPDSV1** to remove the PDS V1 data sets in a runtime environment. If you run this utility with CONFIRM N, it will only print the list of data sets to be deleted in the KCI PRINT DD. Specify CONFIRM Y to delete the data sets.

For a list of PDS V1 data set names, see [“PDS data set names” on page 1225](#).

## Configuring PDS V2

The information in this section describes how you can configure PDS V2, including data set management modes, PDS V2 activation, and data set allocation settings.

### Data set management modes

Review the data set management modes available for PDS V2.

When collecting historical data using PDS V2, you have the option to manage the data sets by space or by time. The specification of the mode depends on the Extent Constraint Removal (ECR) attribute of the SMS data class used when allocating the data sets.

#### Space-based (Extent Constraint Removal = NO)

The amount of historical data in each data set depends on the size of the data set. The number and size of the data sets allocated are defined using parameters *Kpp\_PDS2\_FILE\_COUNT* and *Kpp\_PDS2\_STORE\_SIZE*. These data sets are online at all times. All the allocated data sets except for one are used for writing data, while one data set remains empty for future switches. The switch to the next data set occurs when the current data set runs out of space; no extents are taken when the current data set is full.

To use this mode, allocate the data set using an SMS data class that has the Extent Constraint Removal (ECR) parameter set to a value of NO. The data class can be assigned using the SMS data class ACS routine.

**Note:** It is recommended that you periodically review the data set sizes and [change the size](#) to fit your needs.

#### Time-based (Extent Constraint Removal = YES)

Each data set contains 24 hours of historical data. The number and size of the data sets allocated are defined using parameters *Kpp\_PDS2\_FILE\_COUNT*, *Kpp\_PDS2\_STORE\_SIZE* and *Kpp\_PDS2\_SEC\_SIZE*. These data sets are online at all times. All the allocated data sets except for one are used for writing data, while one data set remains empty for future switches. The switch to the next data set occurs around local midnight.

When the current data set fills up and cannot be extended, recording rolls over to the next data set and less than 24 hours of data may be present in the data set. It is important that each PDS V2 data set be large enough to contain historical data for a full 24-hour period.

To use this mode, allocate the data set using an SMS data class that has the Extent Constraint Removal (ECR) parameter set to a value of YES. The data class can be assigned using the SMS data class ACS routine.

**Note:** With ECR=YES, it is possible that the data sets might grow significantly beyond their initial size. For this reason, it is recommended that time-based mode be used only when you need historical data for a fixed number of days.

For both time-based and space-based modes, a wraparound process is used to allocate and delete the data sets. When a switch occurs, the switch is made to the next empty data set. Then, in preparation for a future switch, the oldest data set is removed and replaced with a newly allocated, empty data set with the same name of the deleted data set. This process allows the opportunity to address problems that might occur when allocating the data set.

The number of PDS V2 data sets for historical data for a given agent at one time will never exceed the value defined in `Kpp_PDS2_FILE_COUNT`. In addition to the data sets for historical data, there is also a configuration data set that is allocated and online at all times for each agent.

## PDS V2 parameters and members

This topic lists the parameters and RKANPARU members related to persistent data store V2.

### PDS V2 parameters

Runtime environment, monitoring server, and agent-specific parameters can be used to control the activation of PDS V2 and to define PDS V2 data set allocation settings. These parameters are supported by Configuration Manager and PARMGEN.

#### Runtime environment (RTE)

The following runtime environment parameters control PDS V2 settings for an individual runtime environment and provide default settings for the OMEGAMON monitoring agents and the monitoring server configured in that environment. These parameters control whether PDS V2 is activated for the runtime environment and define default data set allocation settings.

- [RTE\\_PDS2\\_ACTIVATION](#)
- [RTE\\_PDS2\\_ALLOC\\_TYPE](#)
- [RTE\\_PDS2\\_HILEV](#)
- [RTE\\_PDS2\\_SMS\\_DATACLAS](#)
- [RTE\\_PDS2\\_SMS\\_MGMTCLAS](#)
- [RTE\\_PDS2\\_SMS\\_STORCLAS](#)
- [RTE\\_PDS2\\_VOLUME](#)

#### Monitoring server (KDS)

The following parameters provide PDS V2 settings for the Tivoli Enterprise Monitoring Server (monitoring server). These parameters control whether PDS V2 is activated for the monitoring server and define data set allocation settings.

- [KDS\\_PDS2\\_ACTIVATION](#)
- [KDS\\_PDS2\\_FILE\\_COUNT](#)
- [KDS\\_PDS2\\_SEC\\_SIZE](#)
- [KDS\\_PDS2\\_STORE\\_SIZE](#)
- [KDS\\_PDS2\\_VOLUME](#)

#### Monitoring agents (Kpp)

The following parameters provide agent-specific settings for PDS V2. These parameters control whether PDS V2 is activated for the agent and define data set allocation settings.

- [Kpp\\_PDS2\\_ACTIVATION](#)
- [Kpp\\_PDS2\\_FILE\\_COUNT](#)
- [Kpp\\_PDS2\\_SEC\\_SIZE](#)
- [Kpp\\_PDS2\\_STORE\\_SIZE](#)
- [Kpp\\_PDS2\\_VOLUME](#)

**Note:** The data set management mode (whether to manage the data sets by space or by time) depends on the Extent Constraint Removal (ECR) attribute of the SMS data class used when allocating the data sets. For more information, see [“Data set management modes” on page 1237](#).

## PDS V2 members

PDS V2 uses the following members in *&rhilev*.RKANPARU.

**Important:** These members are generated by Configuration Manager or PARMGEN and should not be modified manually as they would be overwritten by the next **GENERATE** or **\$PARSE** run.

### KPQHINIT

Runtime environment settings for PDS V2 parameters, like the high-level qualifier for the data sets allocated by PDS V2 (for example, **RTE\_PDS2\_HILEV**)

### KPDKPQIN

Member for the Tivoli Enterprise Monitoring Server (*monitoring server*) that allows you to tailor parameters like PDS V2 file counts (for example, **KDS\_PDS2\_FILE\_COUNT**).

### KppKPQIN

Agent-specific member (for example, **KD5KPQIN** for OMEGAMON for Db2), that allows you to tailor agent-specific parameters like PDS V2 file counts (for example, **Kpp\_PDS2\_FILE\_COUNT**).

## How to: Use encryption for your PDS V2 data sets

Learn how to use z/OS® data set encryption for your PDS V2 data sets.

### Before you begin

Use of z/OS data set encryption for your PDS V2 data sets requires z/OS 2.2 with APAR OA50569 or later.

**Attention:** PTF UJ08510 for APAR OA62995 introduces support for z/OS® data set encryption for PDS V2. With the installation of PTF UJ08510, PDS V2 in general (regardless of the use of z/OS data set encryption) also requires z/OS 2.2 with OA50569 or later. After PTF UJ08510 is installed, if your system is not running z/OS 2.2 with OA50569 or later and you attempt to start the monitoring server or monitoring agent, PDS V2 initialization will fail and history data will be lost.

**Note:** The OMEGAMON® persistent data store V2 (PDS V2) component does not perform any encryption or decryption of data. All encryption and decryption of data is done by z/OS. For more information, see [z/OS® data set encryption](#).

## About this task

You can protect your sensitive historical data by using encrypted data sets for PDS V2. In general, to create an encrypted data set, a key label must be assigned to the data set when it is newly allocated. For PDS V2, the data sets are allocated automatically from within the monitoring server or monitoring agent by using the SMS data class that is specified in parameter **RTE\_PDS2\_SMS\_DATACLAS**.

To use encryption for PDS V2, choose an SMS data class that has a key label (KEYLABEL) in its definition, and specify this class name in the **RTE\_PDS2\_SMS\_DATACLAS** parameter.

After the monitoring server or monitoring agent is recycled, it will allocate new PDS V2 data sets if they do not exist and make them encrypted. If the PDS V2 data sets already exist, the monitoring server or monitoring agent will gradually make them encrypted, one by one (that is, one data set for each subsequent data set switch). Each time a data set switch occurs and a new reserved data set is allocated, the newly allocated data set will be created as encrypted.

## Procedure

1. Create an SMS data class that contains a key label (KEYLABEL). You can do this using the **Data Set Key Label** field on the **ISMF DEFINE/ALTER** panel.  
For more information, see *Create an encrypted data set* in [Setting up z/OS data set encryption](#).
2. Update your PDS V2 configuration, as follows:
  - Using PARMGEN: Set the **RTE\_PDS2\_SMS\_DATACLAS** parameter value to an SMS data class that contains a key label (as defined in step 1), and then run \$PARSE.
  - Using Configuration Manager: Set the **RTE\_PDS2\_SMS\_DATACLAS** parameter value to an SMS data class that contains a key label (as defined in step 1), and then run the **GENERATE** action.
3. Recycle the monitoring server or monitoring agent started task.

## How to: Change PDS V2 file count, size, and location

After you have been collecting and displaying historical data for a while, you might find that you need to adjust the amount of data that you store. To change the amount of data, you adjust the number and size of files used by PDS V2. You can also change the volume where the data sets are allocated.

## Before you begin

Initially, you should accept the default number of cylinders (or megabytes) provided by each product (*Kpp\_PDS2\_STORE\_SIZE*, *Kpp\_PDS2\_SEC\_SIZE*).

Eventually, you can determine the correct amount of space by observing the activity, as follows:

- For [space-based mode](#), how often the data set switch occurs.
- For [time-based mode](#), the usage of the primary extent (if a secondary extent is not taken) or how many secondary extents are taken for the data sets.

Using this information, you can adjust the space accordingly.

**Note:** This task describes how to modify the data sets for the monitoring agents using *Kpp\_PDS2\_\** parameters. You can also make these changes for the runtime environment (using *RTE\_PDS2\_\** parameters) and for the monitoring server (using *KDS\_PDS2\_\** parameters).

## About this task

You can modify persistent data store data sets as follows:

- To increase or decrease the file count, edit the *Kpp\_PDS2\_FILE\_COUNT* parameter. The default value of *Kpp\_PDS2\_FILE\_COUNT* is 6, with a range of permissible values from 2 to 36.
- To change the size of the data sets, edit the *Kpp\_PDS2\_STORE\_SIZE* parameter (and optionally the *Kpp\_PDS2\_SEC\_SIZE* parameter). The default value of *Kpp\_PDS2\_STORE\_SIZE* is different for different agents. (The *Kpp\_PDS2\_SEC\_SIZE* parameter does not have a default value.)
- To change the volume where the data sets are allocated, edit the *Kpp\_PDS2\_VOLUME* parameter. If a value is not specified, parameter *Kpp\_PDS2\_VOLUME* uses the value from parameter *RTE\_PDS2\_VOLUME*.

**Note:** When allocating data sets, PDS V2 passes the `Kpp_PDS2_VOLUME` parameter value as the **VOLUMES** parameter in the z/OS IDCAMS utility **DEFINE CLUSTER** command. For SMS-managed data sets, the volume specified might not be used. For more information, see [SMS volume selection for data set allocation](#).

The configuration changes take effect after the monitoring server or monitoring agent is recycled. After the monitoring server or monitoring agent is recycled, it allocates new PDS V2 data sets if they do not exist, with the updated sizing and volume specifications. If the PDS V2 data sets exist, the monitoring server or monitoring agent will gradually make the updates, one by one (that is, one data set per each subsequent data set switch). Each time a data set switch occurs and a new reserved data set is allocated, the newly allocated data set will follow the new sizing and volume specifications.

## Procedure

Use either of the following methods:

- Using PARMGEN:
  - a. In the RTE configuration profile, edit any of the following parameters:
    - `Kpp_PDS2_FILE_COUNT` to specify the number of files
    - `Kpp_PDS2_STORE_SIZE` to change the primary allocation size of each file
    - `Kpp_PDS2_SEC_SIZE` to change the secondary allocation size of each file
    - `Kpp_PDS2_VOLUME` to change the volume where the data sets are allocated
  - b. Submit the \$PARSE job to refresh the profile.

Recycle the monitoring server or monitoring agent started task for the configuration changes to take effect.

- Using Configuration Manager:
  - a. In RTEDEF(`Kpp$PARM`) or RTEDEF(`Kpp$lpar`), update any of the following parameters:
    - `Kpp_PDS2_FILE_COUNT` to specify the number of files
    - `Kpp_PDS2_STORE_SIZE` to change the primary allocation size of each file
    - `Kpp_PDS2_SEC_SIZE` to change the secondary allocation size of each file
    - `Kpp_PDS2_VOLUME` to change the volume where the data sets are allocated
  - b. Run the **GENERATE** action.

Recycle the monitoring server or monitoring agent started task for the configuration changes to take effect.

## Changing the default value for short-term history

This topic explains how to retrieve more than 24 hours of data from short-term history in the Tivoli Enterprise Portal.

By default, in the Tivoli Enterprise Portal, historical data from the previous 24 hours is retrieved from the persistent data store, and historical data from earlier time periods is retrieved from Tivoli Data Warehouse. With PDS V2, depending on your configuration, OMEGAMON can keep more than 24 hours of history that you can display as short-term history in the Tivoli Enterprise Portal.

To retrieve more than 24 hours from short-term history in the Tivoli Enterprise Portal, you can modify the value of the Tivoli Enterprise Portal Server environment variable `KFW_REPORT_TERM_BREAK_POINT`. The value of this variable is specified in seconds. The default value is 86400 (the number of seconds in a 24-hour period). For example, to retrieve seven days of data from the persistent data store, use the following setting:

```
KFW_REPORT_TERM_BREAK_POINT=604800
```

This change needs to be made in the Tivoli Enterprise Portal Server `cq.config` and `cq.ini` files.

**Important:** To avoid excessive response times and exceeding limits on the numbers of rows returned, it is recommended that you follow these guidelines when using the time span feature in the Tivoli Enterprise Portal:

- Request a time range that is specific and small (for example a two-hour period), even when querying data older than 24 hours.
- Avoid requesting a large time frame of data to be returned on the Tivoli Enterprise Portal workspace.

## Monitoring PDS V2 activity

Monitor PDS V2 activity by reviewing related messages in the log.

Messages related to persistent data store activity begin with the KPQ prefix and are written to your monitoring server or monitoring agent RKLVLOG. It is recommended that you review these messages.

For example:

```
KPQH003I KPQSPINI: MODULE STARTED, BUILD NUMBER IS build_number
KPQH016I KPQHSMGR: PERFORMING [OUT-OF-SPACE | SCHEDULED] DATASET SWITCH FOR application
KPQH017I KPQHSMGR: SWITCH SUCCESSFUL FOR application, WRITING TO data_set_name
```

For the complete list of messages, see [KPQ messages](#).

## Displaying PDS V2 data set information

Use the **QUERY DATASTORE** command to display information about data sets known to the PDS V2 engine for a particular product.

**Important:** The content in this section was created for and applies to persistent data store V2 (PDS V2).

To display PDS V2 data set information, enter the following **MODIFY** command:

```
F stcname,KPQ QUERY DATASTORE APPL=application
```

where:

- *stcname* is the started task name of the address space where the persistent data store is running.
- *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

The command output is written to RKLVLOG. To review the output, locate messages KLVOP191 and KPQH043I.

For each data set, the total number of allocated bytes, the number of used bytes, and the status are displayed. For information about possible statuses of the PDS V2 data sets, see [“About PDS V2 data sets and statuses” on page 1223](#).

**Tip:** If there is a delay when writing records to RKLVLOG, you can use the following command to see the output immediately: F *stcname*,FLUSH RKLVLOG

### Example

Command entered:

```
F TEMSSTC,KPQ QUERY DATASTORE APPL=KM5
```

Sample output:

```

KLVOP191      'KPQ QUERY DATASTORE APPL=KM5'
KPQH043I KPQHSMGR: DATASTORE INFORMATION:
-----
DSN
-----
App1      Allocated      Used
Name      Bytes            Bytes      Status
-----
TDUSER.TS1234.PDSPRSB1.HM520001      KM5      107642880      107619936      Partial      Read
TDUSER.TS1234.PDSPRSB1.HM520002      KM5      107642880      107611380      Partial      Read
TDUSER.TS1234.PDSPRSB1.HM520003      KM5      107642880      107618724      Partial      Read
TDUSER.TS1234.PDSPRSB1.HM520007      KM5      107642880      26117160      Partial      Write Active
TDUSER.TS1234.PDSPRSB1.HM520005      KM5      107642880      4096           Empty      Reserved
TDUSER.TS1234.PDSPRSB1.HM520008      KM5      107642880      4096           Empty      Reserved
TDUSER.TS1234.PDSPRSB1.HM520004      KM5      107642880      4096           Empty      Reserved
TDUSER.TS1234.PDSPRSB1.HM520006      KM5      107642880      4096           Empty      Reserved

```

### Switching the active data set

Use the **SWITCH** command to switch the recording data set for the persistent data store to the next available data set.

**Important:** The content in this section was created for and applies to persistent data store V2 (PDS V2).

To switch the currently active data set to the next available data set, enter the following **MODIFY** command:

```
F stcname,KPQ SWITCH APPL=application
```

where:

- *stcname* is the started task name of the address space where the persistent data store is running.
- *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

The command output is written to RKLVLLOG. After the switch occurs, details about the status of each data set in the persistent data store is also written to the log. To review this information, locate messages KLVOP191, KPQH017I, KPQH021I, and KPQH022I.

**Tip:** You can review the status of each data set in the persistent data store at any time using the **QUERY DATASTORE** command. For more information, see [“Displaying PDS V2 data set information” on page 1242](#).

**Tip:** If there is a delay when writing records to RKLVLLOG, you can use the following command to see the output immediately:

```
F stcname,FLUSH RKLVLLOG
```

### Example

Command entered:

```
F TEMSSTC,KPQ SWITCH APPL=application
```

Sample output:

```

KLVOP191      'KPQ SWITCH APPL=KM5'
KPQH017I KPQHSMGR: SWITCH SUCCESSFUL FOR KM5, WRITING TO TDUSER.TS1234.PDSPRSB1.HM520007
KPQH021I KPQHSMGR: KM5 PDSV2 STORE STATE: ACTIVE DATASETS = 6
KPQH022I KPQHSMGR: HM520001: DD=HM500001, SN= 1, ACTIVE=N, EMPTY=N, IGNORED=N, ECR=N
KPQH022I KPQHSMGR: HM520001: START=22-01-12 14:28:31.333, SPAN= 0s
KPQH022I KPQHSMGR: HM520001: REC= 0, SPACE=4096/143769600, EXT=0
KPQH022I KPQHSMGR: HM520002: DD=HM500002, SN= 2, ACTIVE=N, EMPTY=N, IGNORED=N, ECR=N
KPQH022I KPQHSMGR: HM520002: START=22-01-14 14:11:20.474, SPAN= 0s
KPQH022I KPQHSMGR: HM520002: REC= 0, SPACE=4096/143769600, EXT=0
KPQH022I KPQHSMGR: HM520004: DD=HM500004, SN= 4, ACTIVE=N, EMPTY=N, IGNORED=N, ECR=N
KPQH022I KPQHSMGR: HM520004: START=22-01-14 14:54:52.260, SPAN= 0s
KPQH022I KPQHSMGR: HM520004: REC= 0, SPACE=4096/143769600, EXT=0
KPQH022I KPQHSMGR: HM520005: DD=HM500005, SN= 5, ACTIVE=N, EMPTY=N, IGNORED=N, ECR=N

```

```

KPQH022I KPQHSMGR: HM520005: START=22-01-18 11:17:01.537, SPAN=      0s
KPQH022I KPQHSMGR: HM520005: REC=      0, SPACE=4096/143769600, EXT=0
KPQH022I KPQHSMGR: HM520007: DD=HM500007, SN= 7, ACTIVE=Y, EMPTY=N, IGNORED=N, ECR=N
KPQH022I KPQHSMGR: HM520007: START=22-01-19 15:20:52.414, SPAN=      0s
KPQH022I KPQHSMGR: HM520007: REC=      0, SPACE=4096/143769600, EXT=0
KPQH022I KPQHSMGR: HM520006: DD=HM500009, SN= 6, ACTIVE=N, EMPTY=Y, IGNORED=N, ECR=N
KPQH022I KPQHSMGR: HM520006: START=      N/A, SPAN=      0s
KPQH022I KPQHSMGR: HM520006: REC=      0, SPACE=4096/143769600, EXT=0

```

## Using tracing for PDS V2

Under the guidance of IBM® Software Support, you can use a tracing facility specific to PDS V2 events to display detailed diagnostic messages in the log.

You can use either of the following methods to trace PDS V2 events:

- [“Tracing by editing RKANPARU\(KPQHINIT\)” on page 1244](#)
- [“Tracing using the MODIFY command” on page 1244](#)

### Tracing by editing RKANPARU(KPQHINIT)

Use this procedure to set up tracing for PDS V2 events by editing the RKANPARU(KPQHINIT) member.

#### About this task

With this method, tracing takes effect at startup.

**Note:** It is recommended that you use the PDS V2 tracing facility only under the guidance of IBM® Software Support.

### Procedure

1. Edit member RKANPARU(KPQHINIT) and add the following record:

```
DEBUG=trace_level
```

Where *trace\_level* specifies the area or component to trace, as follows:

#### HST1

PDS V2 level 1

#### HST2

PDS V2 level 2

#### MTLI

MTLI - Metal C components

#### PDSH

PDS V2 hook

2. Optional: For multiple traces, specify multiple control cards.
3. Review the trace content in the log.

### Tracing using the MODIFY command

Use this procedure to trace PDS V2 events using the standard z/OS® MODIFY interface.

#### About this task

With this method, tracing is dynamic and can be turned on and off as needed.

**Note:** It is recommended that you use the PDS V2 tracing facility only under the guidance of IBM® Software Support.

## Procedure

1. Use the following command in the MODIFY interface:

```
F stcname,PQDBUG [START|ON] | [STOP|OFF] trace_level
```

Where

***stcname***

Is the started task name of address space where the persistent data store is running.

**START|ON**

Specifies to start debug tracing.

**STOP|OFF**

Specifies to stop debug tracing.

***trace\_level***

Specifies the area or component to trace, as follows:

**HST1**

PDS V2 level 1

**HST2**

PDS V2 level 2

**MTLI**

MTLI - Metal C components

**PDSH**

PDS V2 hook

2. Review the trace content in the log.

## Variables in PARMGEN configuration

Using variables in parameter definitions allows systems to share those definitions but retain unique values for the parameters. A variable acts as a placeholder. Each system that shares the definition replaces the variable with a unique value during product initialization. Most of parameters in the RTE configuration profile can be customized to use variables as values.

If you use symbolic values, configured components and products inherit the values of the system on which they are started (the host z/OS® system). Started tasks contain a preprocessing step that resolves all variable specifications in the product parameter members. These system-specific values are then automatically loaded into temporary data sets that exist only while the component runs. The result is that the software runs correctly by using the system-specific parameter values for the host z/OS® system.

Using variables helps you avoid many disruptive reconfiguration tasks if configuration values change. Using variables, you can also configure runtime environments on one LPAR that are intended to run on other LPARs.

Because variables are resolved at startup, you can share procedures and VTAM® elements across runtime environments. User-defined variables allow for the flexibility of not having to reconfigure the runtime environment when values change.

Support for variables must be enabled by setting the **RTE\_SYSV\_SYSVAR\_FLAG** parameter in the LPAR's WCONFIG(%RTE\_NAME%) configuration profile to Y. Variables cannot be used in the runtime environment of a high-availability hub monitoring server.

## Types of variables supported

Parameter Generator (PARMGEN) configuration supports three types of variables: system variables, KCIPARSE extracted variables, and user-defined variables.

- Typical static system variables

Typical static system variables are those defined in SYS1.IPLPARM, such as &SYSNAME and &SYSCLONE. You can use these variables as parameter values in the configuration profile so long as you specify their values using the following syntax:

```
& || VARNAME || .
```

For example, to use a static variable such as &SYSNAME for the RTE\_NAME parameter, specify &SYSNAME . , as shown in the following example:

```
000002 ** =====
000003 ** PARMGEN CONFIG Parameter   PARMGEN CONFIG Value
000004 ** =====
000005 RTE_NAME                       "&SYSNAME . "
```

- KCIPARSE-extracted variables

The PARMGEN process has built-in application program interfaces (APIs) to extract system-related information such as IP network address, IP address, VTAM network ID, and so forth. Review and submit the \$PARSEDV job to get a list of variables that you can use as PARMGEN configuration values.

For example, to use a KCIPARSE-extracted variable such as &SYSIPHOSTNAME for the RTE\_TCP\_HOST parameter, specify &SYSIPHOSTNAME . , as shown in the following example:

```
000012 ** =====
000013 ** PARMGEN CONFIG Parameter   PARMGEN CONFIG Value
000014 ** =====
000015 RTE_TCP_HOST                   "&SYSIPHOSTNAME . "
```

See the z/OS *MVS™ Initialization and Tuning Reference (SA22-7592)* for basic information on system variables.

- User-defined variables

You may reference any variables that your site defines as long as the PARMGEN configuration profile parameter value is not used as any PROC symbol in a started task.

For example, to use a generic user variable such as &HUB\_HOST. for the KDS\_HUB\_TCP\_HOST parameter, specify &HUB\_HOST . , as shown in the following example:

```
000021 KDS$      BEGIN *-- TIVOLI ENTERPRISE MONITORING SERVER
000022 ** =====
000023 ** PARMGEN CONFIG Parameter   PARMGEN CONFIG Value
000024 ** =====
000025 KDS_HUB_TCP_HOST             "&HUB_HOST . "
```

The \$PARSEDV job generates a \$SYSVAR1 output member and stores it in the WCONFIG library. The \$SYSVAR1 report provides a listing of the three types of symbols autodiscovered by PARMGEN processing. When executing any KCIPARSE job, (the KCIJPCFG, KCIJPUP1, and \$PARSE\* jobs, for example), review the SYSVROUT DDNAME output for a full listing.

## Runtime parts in variables mode

If variables support is enabled in a runtime environment, a number of elements are involved during runtime processing.

### Runtime members

When the \$PARSESV job creates the runtime members and KCIJV\* and KCIJP\* jobs in the runtime environment's WK\* work libraries, the runtime members are created with a reference to the variables, where applicable.

### KCIJV\* PARMGEN jobs

After the \$PARSESV job creates the runtime members and KCIJV\* and KCIJP\* jobs in the runtime environment's WK\* work libraries, the KCIJV\* jobs are ready for submission.

For example, the KCIJPALO RTE Build/Allocation job has an equivalent KCIJVALO job, which simply submits KCIJPALO after a KCIPARSE step is performed between KCIJPALO submissions. This processing is required because references in the KCIJPALO job may be using variables that need to be resolved before submitting the subsequent job. Otherwise, if variables are used for the RTE\_HILEV or RTE\_NAME parameters, the job will encounter a JCL error as these parameter values are used directly in the KCIJP\* jobs. Thus, a preprocessor job that resolves all variables the job may contain is needed. The KCIJVALO equivalent job performs the variables substitution prior to submitting the processed KCIJPALO from a temporary dataset to the internal reader.

### Product started tasks

The \$PARSESV job generates the product started tasks in the WKANSAMU library with additional imbeds added to a typical product started task:

- The KCIPARSE step imbed performs the variables substitution step.
- The RKANPAR/RKANCMD DDNAME imbed concatenates either the physical runtime libraries (*x*KANCMDU, *x*KANPARU) when the runtime environment is not in variables mode, or the temporary libraries where the KCIPARSE step has resolved the variables referenced in the physical runtime libraries.
- The RKPDIIN DDNAME imbed concatenates either the physical *x*KANPARU Persistent Data Store command files (*Kpp*PG, *Kpp*PCTL) when the runtime environment is not in variables mode or the temporary libraries where the Persistent Data Store command files (*Kpp*PG, *Kpp*PCTL) have been processed for symbolics.

### Post-KCIPARSE processing in the running started task

The RKLVLG DDNAME of the started task gets passed the resolved values of the variables specified, whether this is a typical static variable, a KCIPARSE-extracted variable, or a user-defined variable.

## Parameters eligible to use variables

Only a subset of parameters support variables as their parameter values.

Only the following PARMGEN profile parameters support variables as their parameter values. These parameter values are referenced in the started task PROC variables:

#### RTE\_NAME

Used as the STC PROC SYS=*symbol* parameter.

#### RTE\_HILEV

Used as the STC PROC RHILEV=*symbol* parameter.

#### RTE\_VSAM\_HILEV

Used as the STC PROC RVHILEV=*symbol* parameter.

#### RTE\_X\_HILEV\_SHARING

Used as part of the STC PROC BASEHLEV=*symbol* parameter.

#### RTE\_SHARE

Used as part of the STC PROC BASEHLEV=*symbol* parameter.

Any PARMGEN profile parameters that have VTAM® APPLIDs (*Kpp*\_\*\_VTAM\_APPL\_\*) are applicable to &stc\_prefix.M2RC and &stc\_prefix.TOM, as well as the STC PROC APPL=*symbol* parameter.

**Note:** Use caution when specifying user-defined variables (as opposed to static variables) for any of these configuration profile parameters. JCL rules that govern the use of system variables state that most system variables cannot be used in batch JCL. In started-task procedures, you will generate a startup JCL error if you issue the /START &stc command, as user variables referenced as part of the STC PROC statement are not recognized by the system. (Static variables like &SYSNAME. or &SYSCON. are defined system-wide).

There are ways to get around this JCL rule by overriding the value of these variables using the startup command or by using the PARMGEN sample composite STC startup member (IBMAPF, by default) and then defining your own PROC symbol overrides. For VTAM\_APPL-related parameters, there are no

exceptions; these *must not* use user-defined variables, as both the started tasks and the VTAM® major node members will not work.

## Parameters ineligible to use variables

Several parameters in the LPAR configuration profile currently do not support variables or should not be used with variable values due to either products' architecture requirements or z/OS® rules governing variables. System variables may be used in started task JCL (for both jobs and procedures) and in TSO logon procedures, but most may not be used in a batch JCL.

There are ways to get around this JCL rule by overriding the value of these variables using the startup command or by using the PARMGEN sample composite STC startup member (IBMAPF, by default) and then defining your own PROC variable overrides. For VTAM\_APPL-related parameters, there are no exceptions; both the started tasks and the VTAM® major node members will get JCL errors at startup if variables are used.

- Common parameters (RTE\_\*) not eligible to specify a variable value on the PARMGEN panels or RTE configuration profile:

### **RTE\_SMS\_\***

Any variation of the VOLUME, UNIT, STORCLAS, and MGMTCLAS parameters.

### **RTE\_STC\_PREFIX**

Global runtime environment product started task prefix. (See [“Post-configuration steps for variables in started tasks” on page 1249](#) if you choose to use variables for this parameter).

### **RTE\_NAMESV**

For use in the KCIJV\* jobs in WKANSAMU when system variables mode is enabled (RTE\_SYSV\_SYSVAR\_FLAG=Y).

### **RTE\_PLIB\_HILEV**

High level qualifier for the PARMGEN work library specified on the “Parameter Generator (PARMGEN) Workflow” panel (KCIP@PGO).

- Product-specific parameters not eligible to specify a variable value in the LPAR profile:

### **Kpp\_\*\_STC**

Any variation of the product started task prefixes. (See [“Post-configuration steps for variables in started tasks” on page 1249](#) if you choose to use variables for these parameters).

### **OMEGAMON® for CICS®**

KC2\_CCnn\_CLASSIC\_STC  
KC2\_CCnn\_CUA\_STC

### **OMEGAMON® AI for Db2**

KD2\_DBnn\_DB2\_SSID  
KD2\_DBnn\_DB2\_PROFID  
KD2\_PFnn\_PROFID  
KD2\_CLASSIC\_DB2ID\_DEFAULT

### **OMEGAMON® for IMS™ on z/OS®**

KI2\_I1nn\_CLASSIC\_STC  
KI2\_I1nn\_CLASSIC\_MPREFIX

**Note:** Use caution when specifying user-defined variables (as opposed to static variables) for any of these configuration profile parameters. JCL rules that govern the use of system variables state that most system variables cannot be used in batch JCL. In started-task procedures, you will generate a startup JCL error if you issue the /START &stc command, as user variables (&OMXESYM., for example) referenced as part of the STC PROC statement are not recognized by the system.

## Post-configuration steps for variables in started tasks

There are MVS restrictions on starting up STC procedures when variables are used. If you use variables for the RTE\_STC\_PREFIX parameter or any of the product-specific Kpp\_\*\_STC parameters, you must customize the started tasks outside the configuration software.

RTE\_STC\_PREFIX and \*\_STC-related parameter values are referenced inside PARMGEN-created product started tasks in the runtime environment's WKANSAMU library. The started task names are referenced in the started task members in two places as shown in the following Tivoli Enterprise Monitoring Server started task example.

“Symbolic parameter values in LPAR profile” on page 1249 shows the LPAR profile for a sharing-with-base runtime environment named PLB1SYSG.

Displays parameters, symbolic values, and resolved values for LPAR profile

Table 116: Symbolic parameter values in LPAR profile		
Parameter in WCONFIG(PLB3SYSG)	Symbolic Value	Resolved Value (system or user defined)
RTE_NAME	PLB&LEV.&SYSNAME.	PLB1SYSG
RTE_STC_PREFIX	TSS&SYSALVL.	TSS1
RTE_HILEV	&RHILEV.	TSTEST.LPAR
RTE_VSAM_HILEV	&RVHILEV.	TSTEST.LPAR
RTE_X_HILEV_SHARING	&BASEHLQ.	TSTEST
RTE_SHARE	BASE&SYSALVL.	BASE1

“User-defined symbol in system variable member” on page 1249 shows the user-defined symbol in the variable configuration profile member PLB3SYSG in %GBL\_USER\_JCL%.

Displays user-defined variable in the system variables member and resolved value at startup

Table 117: User-defined symbol in system variable member	
User-defined symbol	Resolved value at STC startup
LEV	1

The \$PARSESV and KCIJVUPV jobs use the variable values in the started task for the monitoring server as shown in the following example:

```

PROC section:
000045 //TSS&SYSALVL.DSST PROC RGN=0M,TIM=1440,
000046 //          SYS=PLB&LEV.&SYSNAME.,
000047 //          RHILEV=&RHILEV.,
000048 //          BASEHLEV=&BASEHLQ.&SYSALVL..R,
000049 //          USERCMDU=&RHILEV..PLB&LEV.&SYSNAME..RKANCMDU,
000050 //          USERPARU=&RHILEV..PLB&LEV.&SYSNAME..RKANPARU,
000051 //          USERSAMU=&RHILEV..PLB&LEV.&SYSNAME..RKANSAMU,
000052 //          DOUT=X,          DEBUGGING OUTPUT CLASS
000054 //          RVHILEV=&RVHILEV.,
000055 //          STARTUP=KDSSYSIN

EXEC section:
000155 //TSS&SYSALVL.DSST EXEC PGM=KLV,REGION=&RGN,TIME=&TIM
000156 //STEPLIB DD DISP=SHR,
000157 //          DSN=&RHILEV..&SYS..RKANMODU
000158 //          DD DISP=SHR,
000159 //          DSN=&BASEHLEV.KANMODL
000160 //          DD DISP=SHR,
000161 //          DSN=&BASEHLEV.KANMOD

```

When the \$PARSESV and KCIJVUPV jobs build the STCs and VTAM major nodes in the environment's WKANSAMU library, PARMGEN system variables processing retains the variables inside the STC and VTAM members. Retaining the variables makes the procedures and nodes shareable: they can be started on any LPAR without change. However, the reference to “//TSS&SYSALVL.DSST” on lines #45 and #155 in the preceding example started task does not work with MVS startup rules. MVS rules require these to be static values.

The workaround for this limitation is to change the two references to static values after PARMGEN copies the started tasks from WKANSAMU to the system procedure library (GBL\_DSN\_SYS1\_PROCLIB value you supplied in WCONFIG profiles), by using the PARMGEN KCIJPSYS job. The following example shows a sample edit with the variable values changed to static values:

```

EDIT      SYS1.PROCLIB(TSS1DSST)
Command ==>
PROC section:
000045 //TSS1DSST PROC RGN=0M,TIM=1440,
EXEC section:
000155 //TSS1DSST EXEC PGM=KLV,REGION=&RGN,TIME=&TIM

```

## Use of variables with jobcards

Variables such as %SYSJOBNAME% and %SYSTEMEMBER% extracted by the KCIIPARSE program are generated for reference only. For the KCIJPCFG job, these variables are intentionally not resolved, as the KCIJPCFG job must copy the resulting \$JOB CARD member from the GBL\_USER\_JCL library to WCONFIG. The variables must be preserved, so jobs run after the initial KCIJPCFG job can take advantage of the resolved values.

The following example shows the default jobcard in the %GBL\_TARGET\_HILEV%.TKANSAM library:

```

//*&userid.A JOB (ACCT),'%SYSTEMEMBER% - NAME',CLASS=A,
//* MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=,REGION=0M
//** RTE_NAME=%RTE_NAME%
//** SYSJOBNAME=%SYSJOBNAME% SYSTEMEMBER=%SYSTEMEMBER%
//* Begin - Sample Jobcard: -----
//* *****
//* Primary Source: TKANSAM(KCI$JCRD) User Copy: WCONFIG($JOB CARD)
//* Execute JOB CARD macro and/or customize the sample above.
//* Notes: 1. The jobcard statements above are commented out by default.
//*        2. REGION=0M is recommended.
//*        3. SYSJOBNAME/SYSTEMEMBER values are generated for reference.
//*           For the first job (KCIJPCFG), these symbolics are not
//*           resolved on purpose. See KCIJPCFG help panel for more
//*           information.
//*        4. RTE_NAME value is generated for reference.
//* *****
//* End - Sample Jobcard: -----

```

In the file-tailored KCIJPUP1 job, generated by the KCIJPUP1 job, the jobcard is generated as follows (based on the IBM-supplied jobcard):

```

//&userid.A JOB (ACCT),'KCIJPUP1 - NAME',CLASS=A,
// MSGCLASS=X,MSGLEVEL=(1,1),NOTIFY=&SYSUID.,REGION=0M
//* RTE_NAME=TESTSP23
//* SYSJOBNAME=&userid.A SYSTEMEMBER=KCIJPUP1

```

## Submission of PARMGEN batch jobs if system variables are enabled

If system variables are enabled for a runtime environment, there are planning considerations for submitting the batch jobs to complete the PARMGEN setup.

Submitting jobs generated by the \$PARSE\* job in WKANSAMU (option 11 on the Parameter Generator (PARMGEN) Workflow - Welcome menu) is a follow-on step to customizing the configuration profile members. Whether the PARMGEN jobs are submitted in the target LPAR where the symbolics are resolved or submitted in the local LPAR where the PARMGEN runtime environment work is being set up depends on how the runtime environment is configured for system variables.

If the runtime environment is enabled for system variables and you are using symbolics in data set names (RTE\_NAME, RTE\_HILEV, etc.) in an environment where the PARMGEN work is all done on one LPAR whereas the production runtime environment runs on a different LPAR:

- If you are on the LPAR where the symbolics resolve, submit the jobs as usual.
- If you are not on the LPAR where the symbolics resolve, you have two options:
  - *Option 1: Use the RTE\_X\_SYSV\_OVERRIDE\_SYMBOLS parameter.*  
Setting the RTE\_X\_SYSV\_OVERRIDE\_SYMBOLS to Y and defining the symbols and their resolved values in the GBL\_USER\_JCL(&rte) system variables profile enables you to submit the PARMGEN jobs in the system where the PARMGEN runtime environment work is being done (allocating RTE product execution RK\* runtime libraries, loading TK\* to RK\* runtime libraries, and so on).
  - *Option 2: Specify a /\*JOBPARM SYSAFF=xxxx card in your WKANSAMU(KCIJV\*) jobcard (where xxxx is the LPAR system name where you want the submitted jobs to execute).*  
Specifying a job card allows you to submit LPAR specific jobs while on a different LPAR.

JES3 users: Specify the SCHENV=*-name* parameter to define the name of the Workload Manager (WLM) scheduling environment to associate with the KCIJV\* jobs.

**Tip:** Add the /\*JOBPARM SYSAFF=*xxxx* card to your WCONFIG(\$JOB CARD) member prior to submitting the WCONFIG(\$PARSESV) job. In this way, the WKANSAMU(KCIJV\*) jobs that \$PARSESV creates will already contain the JOBPARM card.

**Note:** Certain sites pose JOBPARM restrictions when directing jobs to execute on production LPARs. Consult your site's system programmers for more information.

## Enabling variable support

Support for variables must be enabled in each runtime environment in which variables are used. To enable variable support, the RTE\_SYSV\_SYSVAR\_FLAG parameter in the LPAR configuration profile for each runtime environment must be set to Y. If user-defined variables are referenced, those variables and their resolved values for the target system must be defined in the system variables profile, GBL\_USER\_JCL(%RTE\_NAME%) .

### About this task

Enabling variable support involves the following steps:

1. Enabling variable support in the RTE by setting the RTE\_SYSV\_SYSVAR\_FLAG to Y.
2. Defining user variables, if any, and specifying resolution values for system and KCIPARSE-extracted variables if these values cannot be determined automatically from the IPL PARMLIB.

If you are using the PARMGEN Workflow interface, you can set the RTE\_SYSV\_SYSVAR\_FLAG on the third panel of the "Set up PARMGEN work environment for an RTE" option ( KCIP@PG3), or in the RTE configuration profile itself.

After you have enabled variable support, you can customize other parameters within the profile to use the system and user-defined variables. For example, you can modify the runtime environment name by using a system variable:

```
RTE_NAME          OMXE&SYSNAME .
```

You can also customize parameters to employ user-defined variables. In the following example, the z/OS® UNIX® System Services directory used can be represented by a variable:

```
RTE_USS_RTEDIR    "&RTE_USS_DIR . "
```

If you are referencing user-defined symbols, you must also customize the GBL\_USER\_JCL(%RTE\_NAME%) variables resolution profile to define the variables and their resolved values for this runtime environment. You can edit the member directly, or access it from the "Customize PARMGEN Configuration Profile Members" panel (KCIP@PG6), by selecting option 8 on the PARMGEN Workflow main menu. "[Figure: Pre-defined and user-defined symbolics](#)" on [page 1252](#) shows an example of the member where the resolved symbols are defined.

```

=====
000284 * *****
000285 * SECTION: PRE-DEFINED / USER-DEFINED SYMBOLICS *
000286 * *****
000287 * ----- BEGIN - USER SECTION: PRE-DEFINED SYMBOLICS ----- *
000288 * =====
000289 * User-defined symbolic: Resolved value:
000290 * =====
000291 AGT_TEMMS_BKUP1_NAME_NODEID PLB1SP22:CMS
000292 AGT_TEMMS_BKUP1_TCP_HOST SP22
000293 AGT_TEMMS_BKUP1_VTAM_LU62_DLOGMOD CANCTDCS
000294 AGT_TEMMS_BKUP1_VTAM_APPL_LLB_BKR TS1DSL
000295 AGT_TEMMS_BKUP1_VTAM_NETID USCAC001
000296 * ----- END - USER SECTION: PRE-DEFINED SYMBOLICS ----- *
000297 * ----- BEGIN - USER SECTION: USER-DEFINED SYMBOLICS ----- *
000298 * =====
000299 * User-defined symbolic: Resolved value:
000300 * =====
000400 * ----- END - USER SECTION: USER-DEFINED SYMBOLICS ----- *
008300 * ----- BEGIN - USER SECTION: USER-DEFINED SYMBOLICS ----- *
008400 * =====
008500 * User-defined symbolic: Resolved value:
008600 * =====
008700 * ----- END - USER SECTION: USER-DEFINED SYMBOLICS ----- *
008800 * Type 1: Static symbol override
008900 SYSNAME SYSG
009000 SYSPLEX LPAR400J
009010 SYSALVL 2
009011 SYSCLONE SG
009100 * Type 2: KCIPARSE-extracted symbols
009200 SYSVTAMNETID USCAC001
009300 SYSIPHOSTNAME WLAG
009400 * Type 3: User defined symbols
009500 RTE_USS_RTEDIR /tstest
009600 SDA_CICS_FLAG N
009710 KDS_HUB_TEMMS_NAME_NODEID "PLB1SP22:CMS"
009711 KDS_HUB_VTAM_APPL_GLB_BROKER TS1DSL
009720 KDS_HUB_VTAM_NETID USCAC001
009730 KDS_HUB_TCP_HOST SP22
009780 KDS_HUB_TCP_PIPE_PORT_NUM 14731
009790 KDS_HUB_TCP_UDP_PORT_NUM 14731
***** ***** Bottom of Data *****

```

Figure 201: Pre-defined and user-defined symbolics

## What to do next

After you enable variable support, run the jobs appropriate to the configuration scenario you are enacting.

## Predefining and managing OMEGAMON® started tasks

If you are using System Automation for z/OS®, make sure the automation rules are defined to start and manage the OMEGAMON® started tasks. System Automation comes with an OMEGAMON® policy that predefines these rules.

See the [System Automation publications \(https://www.ibm.com/docs/en/SSWRCJ\\_4.1.0/com.ibm.safos.doc\\_4.1/ProdAuto/omegamon\\_part.html\)](https://www.ibm.com/docs/en/SSWRCJ_4.1.0/com.ibm.safos.doc_4.1/ProdAuto/omegamon_part.html) for information about the OMEGAMON policy.

The following table lists the OMEGAMON® started tasks (default names have been used) and associated automation dependencies.

**Note:** The CUA-related started tasks are applicable to only OMEGAMON family V5.3.0 and earlier versions. PARMGEN 3Q17 IF PTF will no longer generate these started tasks if later versions are installed in the CSI that the PARMGEN environment points to.

This table summarizes the steps necessary to integrate the management of OMEGAMON Monitoring Agents into your site's System Automation for z/OS rules.

<i>Table 118: OMEGAMON® started tasks and automation dependencies</i>		
<b>PARMGEN Configuration Parameter</b>	<b>Default started task name</b>	<b>Description</b>
<b>Dependency on VTAM</b> VTAM must be running and the major node must be active.		
KM2_CLASSIC_STC	IBMM2RC	IBM® OMEGAMON for z/OS® (3270)
KM2_CUA_STC	IBMM2	IBM® OMEGAMON for z/OS® (3270)
KC2_CCnn_CLASSIC_STC	IBMOCx (where x = 0, 1, 2, 3..15)	IBM Z® OMEGAMON® for CICS® (where nn = 01, 02, 03..; 1 per 3270 Classic started task that can monitor multiple CICS regions per STC)
KI2_I1nn_CLASSIC_STC	IBMOIx (where x = 0, 1, 2, 3..99)	IBM® OMEGAMON for IMS on z/OS® (where nn = 01, 02, 03..; 1 per 3270 Classic STC that monitors 1 IMS subsystem per STC)
KI2_CUA_STC	IBMI2	IBM® OMEGAMON for IMS on z/OS® (3270)
KD2_CLASSIC_STC (or GBL_DB2_KD2_CLASSIC_STC)	IBMO2	IBM Z® OMEGAMON® AI for Db2 (3270)
KDS_TEMS_STC	IBMDS	Tivoli Enterprise Monitoring Server
RTE_CANSETE_STC	IBMETE	OMEGAMON End-to-End
KM2_EPILOG_COLLECTOR_STC	IBMM2HI	IBM® OMEGAMON for z/OS® (3270) Historical Collector (Epilog)
KM2_EPILOG_ZOOM_STC	IBMM2EZ	IBM® OMEGAMON for z/OS® (3270) Epilog Zoom
KDF_CUA_STC	IBMDF	IBM® OMEGAMON for Storage on z/OS® (3270)
KMV_CUA_STC	IBMMV	IBM® OMEGAMON® DE on z/OS® OMEGAVIEW (Agent)
KON_CUA_STC	IBMON	IBM® OMEGAMON for Networks on z/OS® (3270)
<b>Dependency on TCP/IP</b> TCP/IP must be started, ready to accept binds, and able to resolve DNS names; this automation usually requires OMPROUTE.		
KDS_TEMS_STC	IBMDS	Tivoli Enterprise Monitoring Server
KM2_CUA_STC	IBMM2	IBM® OMEGAMON for z/OS® (3270)
KC5_AGT_STC	IBMC5	IBM Z® OMEGAMON® for CICS® (Agent)
KD5_AGT_STC	IBMD5	IBM Z® OMEGAMON® AI for Db2 (Agent)
KI5_AGT_STC	IBMI5	IBM® OMEGAMON for IMS on z/OS® (Agent)
KN3_AGT_STC	IBMN3	IBM® OMEGAMON for Networks on z/OS® (Agent)
KMQ_AGT_STC	IBMMQ	IBM® OMEGAMON for Messaging- MQ (Agent)
KMC_AGT_STC	IBMMC	IBM® OMEGAMON for Messaging- MQ Configuration (Agent) <sup>4</sup>
KQI_AGT_STC	IBMQI	IBM® OMEGAMON for Messaging- Integration Bus (Agent)
KYN_AGT_STC	IBMYN	ITCAM for Application Diagnostics on z/OS® (Agent)
KOB_TOM_STC	IBMTOM	IBM® OMEGAMON® enhanced 3270 user interface
KGW_AGT_STC	IBMGW	IBM Z® OMEGAMON® for CICS® TG (Agent)
<b>Dependency on Tivoli Enterprise Monitoring Server (IBMDS)</b> These tasks retry if they do not succeed in connecting to IBMDS. The dependency is optional.		

PARMGEN Configuration Parameter	Default started task name	Description
KC5_AGT_STC	IBMC5	IBM Z® OMEGAMON® for CICS® (Agent)
KD5_AGT_STC	IBMD5	IBM Z® OMEGAMON® AI for Db2 (Agent)
KI5_AGT_STC	IBMI5	IBM® OMEGAMON for IMS on z/OS® (Agent)
KM2_EPILOG_COLLECTOR_STC	IBMM2HI	IBM® OMEGAMON on z/OS® (3270) Historical Collector (Epilog)
KDF_CUA_STC	IB MDF	IBM® OMEGAMON for Storage on z/OS® (3270)
KMQ_AGT_STC	IBMMQ	IBM® OMEGAMON for Messaging- MQ (Agent)
KMC_AGT_STC	IBMMC	IBM® OMEGAMON for Messaging- MQ Configuration (Agent) <sup>4</sup>
KQI_AGT_STC	IBMQI	IBM® OMEGAMON for Messaging- Integration Bus (Agent)
KYN_AGT_STC	IBMYN	ITCAM for Application Diagnostics on z/OS® (Agent)
KM2_CUA_STC	IBMM2	IBM® OMEGAMON for z/OS® (3270)
KN3_AGT_STC	IBMN3	IBM® OMEGAMON for Networks on z/OS® (Agent)
KOB_TOM_STC	IBMTOM	IBM® OMEGAMON® enhanced 3270 user interface
KGW_AGT_STC	IBMGW	IBM Z® OMEGAMON® for CICS® TG (Agent)
<b>No dependencies</b>		
RTE_CANSCN_STC	IBMCN	OMEGAMON Subsystem
KM2_CSA_ANALYZER_STC	IBMM2CS	IBM® OMEGAMON for z/OS® (3270) Common Storage Area Analyzer

**Note:** IBMOCx must come up before the CICS regions, or the OMEG INIT fails.

## Workload Manager (WLM) settings for the OMEGAMON® tasks

The various started tasks created during the configuration process have varying levels of priority. Some started tasks, typically the data collecting monitoring agents, require a high priority to enable the ability to make requests for data.

The following table lists the OMEGAMON® started tasks (default names have been used) and indicates the priority level to use to allocate these tasks:

This table summarizes the integration of the OMEGAMON Monitoring Agents into your site's Workload Manager settings.

<i>Table 119: OMEGAMON® started tasks by priority group</i>		
PARMGEN Configuration Parameter	Default started task name	Description
<b>Group 1: Collector tasks</b> This group of tasks need high priority. For example, the priority of IBMOCx must be at least as high as that of CICS, and IBMM2RC is typically at the same level as JES2/3. SYSSTC is the most suitable priority level for this group of tasks.		
RTE_CANSCN_STC	IBMCN	OMEGAMON Subsystem

<sup>4</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

PARMGEN Configuration Parameter	Default started task name	Description
KD2_CLASSIC_STC (or GBL_DB2_KD2_CLASSIC_STC)	IBMO2	IBM Z® OMEGAMON® AI for Db2 (3270)
KM2_CUA_STC	IBMOCx	IBM Z® OMEGAMON® for CICS® (where n = 1 per 3270 pair)
KC2_CCnn_CLASSIC_STC	IBMOIx	IBM® OMEGAMON for IMS on z/OS® (where n = 1 per 3270 pair)
KON_CUA_STC	IBMON	IBM® Tivoli® OMEGAMON for Networks on z/OS® (3270)
KM2_EPILOG_COLLECTOR_STC	IBMM2HI	IBM® OMEGAMON on z/OS® (3270) Historical Collector (Epilog)
KM2_CLASSIC_STC	IBMM2RC	IBM® OMEGAMON for z/OS® (3270)
KM2_CUA_STC	IBMM2	IBM® OMEGAMON for z/OS® (3270)
KM2_CSA_ANALYZER_STC	IBMM2CS	IBM® OMEGAMON for z/OS® (3270) Common Storage Area Analyzer
RTE_CANSETE_STC	IBMETE	OMEGAMON End-to-End
KDF_CUA_STC	IBMDF	IBM® OMEGAMON for Storage on z/OS® (3270)
KC2_CCnn_CLASSIC_STC	IBMOIx (one for each IMS subsystem)	IBM® OMEGAMON for IMS on z/OS® (where n = 1 per 3270 pair)
<b>Group 2: OMEGAMON® tasks</b> This group of tasks also need high priority. SYSSTC or STCHIGH are suitable priority levels for this group of tasks.		
KDS_TEMS_STC	IBMDSST	Tivoli Enterprise Monitoring Server
KC5_AGT_STC	IBMC5	IBM Z® OMEGAMON® for CICS® (Agent)
KD5_AGT_STC	IBMD5	IBM Z® OMEGAMON® AI for Db2 (Agent)
KI5_AGT_STC	IBMI5	IBM® OMEGAMON for IMS on z/OS® (Agent)
KN3_AGT_STC	IBMN3	IBM® OMEGAMON for Networks on z/OS® (Agent)
KMQ_AGT_STC	IBMMQ	IBM® OMEGAMON for Messaging- MQ (Agent)
KQI_AGT_STC	IBMQI	IBM® OMEGAMON for Messaging-Integration Bus (Agent)
KYN_AGT_STC	IBMYN	ITCAM for Application Diagnostics on z/OS® (Agent)
KMC_AGT_STC	IBMMC	IBM® Tivoli® OMEGAMON for Messaging- MQ Configuration (Agent) <sup>5</sup>
KOB_TOM_STC	IBMTOM	IBM® OMEGAMON® enhanced 3270 user interface
KGW_AGT_STC	IBMGW	IBM Z® OMEGAMON® for CICS® TG (Agent)
<b>Group 3: OMEGAMON® II presentation tasks</b> This group of tasks need lower priority because they display data but do not collect it.		
KI2_CUA_STC	IBMI2	IBM® OMEGAMON for IMS on z/OS® (3270)
KC2_CCnn_CUA_STC	IBMC2n	IBM Z® OMEGAMON® for CICS® (where n = 1 per 3270 pair)
KMV_CUA_STC	IBMMV	IBM® OMEGAMON® DE on z/OS® OMEGAVIEW (Agent)

<sup>5</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

PARMGEN Configuration Parameter	Default started task name	Description
KM2_HIST_DATA_INTERFACE_STC	IBMM2HD	IBM® OMEGAMON for z/OS® (3270) Historical data interface
KM2_EPILOG_ZOOM_STC	IBMM2EZ	IBM® OMEGAMON for z/OS® (3270) Epilog Zoom
<b>Group 4: Maintenance tasks for historical data sets</b>		
This group of tasks can be low-priority because they are started only when needed and they run for a short time.		
KM2_HIST_PROC_PRIMARY_STC	IBMM2HP	IBM® OMEGAMON for z/OS® (3270) Historical maintenance (primary)
KM2_HIST_PROC_SECONDARY_STC	IBMM2HS	IBM® OMEGAMON for z/OS® (3270) Historical maintenance (secondary)
RTE_PDS_KPDPROC_PREFIX	KPDPROCn	Common IBM® Tivoli® Monitoring Persistent Datastore high-level qualifier prefix historical maintenance procedure (where n = 1)
KM2_HIST_BATCH_REPORTER_STC	IBMM2BA	IBM® OMEGAMON for z/OS® (3270) Historical maintenance (batch reporter)

## Product codes

The following table lists many of the product codes associated with the Tivoli Management Services components and OMEGAMON® products. Where a component or product has more than one code, the principal configuration code is shown in **bold print**. Throughout this publication, the variable *pp* represents the product code.

Lists the two-character product codes associated with Tivoli Management Services components and OMEGAMON® products.

Product or component	Codes
Advanced Audit for DFSMSHsm Agent	RG
Advanced Reporting and Management for DFSMSHsm Agent	RH
Advanced Allocation Management Agent	RJ
Automated Tape Allocation Manager for z/OS Agent	RK
Advanced Catalog Management Agent	RN
Advanced Backup and Recovery for z/OS Agent	RV
Configuration software (Configuration Manager/PARMGEN)	<b>CI</b> , RT
End-to-End response time component	ET
EPILOG®	ED, EI, EP
Monitoring agent on z/OS® (common to all monitoring agents)	AG
IBM Z® NetView	NA
OMNIMON Base (includes the IBM® Tivoli® OMEGAMON® enhanced 3270 user interface and OMEGAMON® Subsystem)	CA, CC, CN, EB, IA®, JI, <b>OB</b>
IBM Z® OMEGAMON® for CICS®	BG, C2, <b>C5</b> , CP, OC
IBM Z® OMEGAMON® for CICS® TG	GW
IBM Z® OMEGAMON® AI for Db2	<b>D5</b> , D2, O2, DP
IBM OMEGAMON® for IMS™ on z/OS®	AT®, DF, I2, <b>I5</b> , IA®, IN, IP, ML, OI, OS, RI
IBM OMEGAMON® for Networks on z/OS®	<b>N3</b> , ON

Product or component	Codes
IBM Tivoli Composite Application Manager for SOA on z/OS	D4
ITCAM for Application Diagnostics	YN
OMEGAMON® for Messaging on z/OS®	CF <sup>6</sup> , MC <sup>6</sup> , <b>MQ</b> , QI,
OMEGAMON® for Storage on z/OS®	DF, RC, <b>S3</b>
OMEGAMON® for z/OS®	CG, CS, EA, IA®, IN, M2, <b>M5</b> , MH, MR, OE, OM, OS, PM, RA, WD, XD, XO
OMEGAMON® for JVM on z/OS®	<b>JJ</b> , JT
OMEGAMON® on z/VM® and Linux™	VL
OMEGAVIEW®	<b>MV</b> , SD, WO
Shared probes	<b>SB</b>
Summarization and Pruning agent	SY
System Automation Monitoring Agent	AH
Tape Optimizer for z/OS Agent	RW
Tivoli Enterprise Monitoring Server	AG, CO, <b>DS</b> , EF, FA, FW, GL, IB, IH, LC, LG, LI, LS, MA, MS, NS, NV, O4, OU, OX, PD, PS, PT, QM, SH, SM, SS, TN, TR, UI, UT, VI, VT
Tivoli Enterprise Portal desktop client	CJ
Tivoli Enterprise™ Portal Server	CQ, FW
Tivoli Enterprise™ Portal browser client	CW
TMS:Engine	BB, DC, DE, DF, DH, LB, LC, LD, LE, LF, LG, LH, LI, LS, LT, LU, LV, LX, SB
Warehouse Proxy agent	HD

## Common parameters

Common parameters are those used for setting and storing configuration values for the runtime environments (RTEs) in which the IBM® OMEGAMON® monitoring agents are configured (RTE, GBL) and for the common components of IBM® Tivoli® Management Services on z/OS®, such as the Tivoli Enterprise Monitoring Server (KDS) and the Tivoli Enhanced 3270 user interface (KOB). Common parameters also include common agent parameters (KAG and KPP). Common agent parameters are those parameters that are common to agents that can be configured stand-alone in an RTE without a Tivoli Enterprise Monitoring Server.

For information about agent-specific parameters, see the documentation for each product.

## Overview

Configuration of OMEGAMON® monitoring products and the components of the shared Tivoli® Management Services infrastructure uses parameters for setting and storing configuration values. With the Parameter Generator (PARMGEN) configuration method, you edit the parameters in a set of configuration profiles to configure all the installed products and components in a runtime environment. Then you submit a series of jobs to create the runtime environment with the parameter values you specified. Most parameters are provided with default values that you can accept or change. Some parameters are included in the runtime libraries by default, and others are excluded by default.

The PARMGEN method can be used for creating new runtime environments and for upgrading existing ones that were created from product versions for which the PARMGEN configuration method was enabled.

This reference contains information about the parameters common to all agents and components in a runtime environment. For agent-specific parameter information, see the documentation for each product.

<sup>6</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

## Where configured parameters are stored

Most configuration parameters and their configured values are stored in the *KppENV* or *KppSYSIN* members of the *rhilev.rte.RKANPARU* data set for each runtime environment.

Where:

*pp*

is the 2-character product or component code

*rhilev*

is the high-level qualifier for the runtime environment data sets

*rte*

is the runtime environment name, which is used as the mid-level qualifier for the runtime environment data sets

The parameters stored in the *KppENV* member are *environment variables*, which determine the operating characteristics of the runtime environment in which products and components are configured. The parameters stored in the *KppSYSIN* member are *startup parameters*, which determine the default startup values for each product or component.

## Default values

Some parameters have only one default value, and some have more than one.

For example, TMS:Engine sets this global default value for the “[KDS\\_TEMS\\_STORAGE\\_LIMIT\\_EXTEND](#)” on page [1410](#) parameter:

```
LIMIT(16,X)
```

However, the PARMGEN files override the TMS:Engine default and show a different default value for the Tivoli® Enterprise Monitoring Server:

```
LIMIT(23,X)
```

When you edit a default value in a PARMGEN file, your edited value overrides the default value, which has already overridden the TMS:Engine default value (if one exists).

The default values provided by an individual monitoring agent product often differ from the TMS:Engine default values, the Tivoli Enterprise Monitoring Server default values, and the default values of other monitoring agents. Default values are shown in PARMGEN configuration profiles. These values are also included in the documentation for each monitoring agent product. The information in this section includes information about the default values for runtime environment and Tivoli Enterprise Monitoring Server parameters.

## Parameter names

Information on parameter names and how they are used is provided in this section.

### Stored parameter name

Name of the parameter as stored in a runtime library. Example: LIMIT

### PARMGEN name

Name of the parameter in the PARMGEN parameter list. Example: KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND

In this guide, the parameters in each chapter are documented in alphabetical order by PARMGEN name, and all other applicable names for each parameter are shown. You can use the Index to look up a parameter by one of the names other than the PARMGEN name.

### Parameters with *n* or *nn* in their names

Some parameters include *n* or *nn* in their names. These are not the actual names of these commands as you will see them in the configuration profile. The *n* or *nn* means that you can have multiple instances of this parameter in your configuration profile. For example, you will most likely have multiple instances of the set of monitoring agent component override commands (for example, KN3\_TCPX*nn*\_OVRD\_CONN or KN3\_TCPX*nn*\_OVRD\_FTP)

because you have one set of values for every instance in which you override the global (all stacks) collection values for a specific stack. Likewise, you would have multiple instances of the KN3\_AGT\_NONSTD $n$ \_DSN, KN3\_AGT\_NONSTD $n$ \_MBR, KN3\_AGT\_NONSTD $n$ \_PARAM values if you defined several nonstandard parameters. If you cannot find a parameter by searching on its full name, try searching on a part of the name, omitting the numbers that define instance.

### Parameters designated N/A

Some parameters have "N/A" (not applicable) designated in the field description. This designation means that these parameter cannot be set using the mode being described.

There is a difference in how PARMGEN designates multiple instances of sets of parameters for stack-specific configuration (as opposed to global values) in the configuration profile file and how batch mode handles these same parameters. As noted previously, override commands in PARMGEN have a two-digit number (represented as  $nn$ ) appended to the middle of the parameter name (for example, KN3\_TCPX $nn$ ) indicating a stack-specific override of a global value (for example, KN3\_TCPX01\_OVRD\_CONN or KN3\_TCPX02\_OVRD\_CONN to override the global value KN3\_TCP\_CON). Batch mode does not append the two-digit number to indicate a stack-specific override. Instead, Batch overrides are indicated with a KN3\_TCPX BEGIN or KON\_TCPX BEGIN statement and concluded with a KN3\_TCPX END or KON\_TCPX END statement, as shows in the following sample Batch mode file:

```

** TCP/IP Information:
KN3_TCP_DATA          SYS1.TCPPARMS(TCPDATA)
KN3_TCP_SAMP_INTERVAL 1
KN3_TCP_STACK        Y
KN3_TCP_CON          Y          <-- global default
.
.
** Define TCP monitoring systems member:
KN3_TCPX             BEGIN          * Table begin
KN3_TCPX_ROW
KN3_TCPX_SYS_NAME    $$$$
KN3_TCPX_ADDR_SPACE  $$$$$$$$
KN3_TCPX_PROF_DATASET TCPIP.PROFILE.TCPIP
KN3_TCPX_OGBL        N
KN3_TCPX_OSTACK      Y
KN3_TCPX_OTCPC       Y  <-- stack specific-default (this is also global)
.
.
**KN3_TCPX_PROF_MEMBER
KN3_TCPX_ROW
KN3_TCPX_SYS_NAME    $$$$
KN3_TCPX_ADDR_SPACE  SAMPLESTACK
KN3_TCPX_PROF_DATASET USER.PARMLIB
KN3_TCPX_OGBL        Y
KN3_TCPX_OSTACK      Y
KN3_TCPX_OTCPC       Y  <-- stack specific for SAMPLESTACK
.
.
KN3_TCPX_PROF_MEMBER SAMPLESTACK  <-- End of SAMPLESTACK parameters
.
.
KN3_TCPX             END  <--End of all overrides for all stacks

```

### Determining what products are configured in each runtime environment

One of the first sections in the configuration profile is the set of flags that define the set of monitoring agents running in this runtime environment.

These configuration flag statements are in the following format:

```

* Tivoli Enterprise Monitoring Server: KDS flag
CONFIGURE_TEMS_KDS      "Y"

```

Where the first line, which is commented out, identifies the product or component to be configured and the second statement is the PARMGEN command to configure the specified product. Specify **Y** if the product-specific configuration flag if the product is to be configured in this runtime environment. Specify **N** if you do not plan to configure the specified product in this runtime environment. The full set of configuration flags are found in the table that follows.

<i>Table 121: Flags from CONFIGURE_PRODUCTS USER SECTION</i>	
<b>Product</b>	<b>Configuration statement (Y or N)</b>
Tivoli Enterprise Monitoring Server	CONFIGURE_TEMS_KDS
IBM Z® OMEGAMON® for CICS®	CONFIGURE_CICS_KC5
IBM Z® OMEGAMON® for CICS® TG	CONFIGURE_CICS_TG_KGW
IBM Z® OMEGAMON® AI for Db2	CONFIGURE_DB2_AGENT_KD5
IBM OMEGAMON for IMS on z/OS	CONFIGURE_IMS_KI5
IBM OMEGAMON for z/OS	CONFIGURE_ZOS_KM5
IBM System Automation for z/OS	CONFIGURE_SA_KAH
IBM OMEGAMON z/OS Management Console	CONFIGURE_ZMC_KHL
IBM OMEGAMON for Messaging - MQ Configuration <sup>7</sup>	CONFIGURE_MESSAGING_KMC
IBM OMEGAMON for Messaging - MQ:	CONFIGURE_MESSAGING_KMQ
IBM OMEGAMON for Messaging - Integration Bus	CONFIGURE_MESSAGING_KQI
IBM Z® NetView	CONFIGURE_NETVIEW_KNA
IBM OMEGAMON for Networks	CONFIGURE_MFN_KN3
IBM OMEGAMON for Storage on z/OS	CONFIGURE_STORAGE_KS3
IBM OMEGAMON DE on z/OS - OMEGAVIEW and OMEGAVIEW II	CONFIGURE_OMEGAVIEW_KWO
IBM Tivoli Decision Support for z/OS	CONFIGURE_TDS_KDO
IBM Tivoli Composite Application Manager for SOA	CONFIGURE_SOA_KD4
IBM Tivoli Advanced Audit for DFSMSHsm	CONFIGURE_AAD_KRG
IBM Tivoli Advanced Reporting for DFSMSHsm	CONFIGURE_ARD_KRH
IBM Tivoli Advanced Allocation Management for z/OS	CONFIGURE_AAM_KRJ
IBM Tivoli Automated Tape Allocation Manager for z/OS	CONFIGURE_ATAM_KRK
IBM Tivoli Advanced Catalog Management for z/OS	CONFIGURE_ACM_KRN
IBM Tivoli Advanced Backup and Recovery for z/OS	CONFIGURE_ABR_KRV
IBM Tivoli Tape Optimizer for z/OS	CONFIGURE_TOZ_KRW
ITCAM for Application Diagnostics on z/OS	CONFIGURE_ITCAMAD_KYN

## Parameters covered in this guide

This guide documents several types of parameters.

- [“Common agent parameters \(Kpp and KAG\)” on page 1261](#)  
The parameters common to all agents had been documented in the OMEGAMON for Networks parameter reference guide. The definitions of these parameters have been broadened and moved to this common location since the parameters are common to all agents configured with PARMGEN.
- [“Global \(GBL\) parameters” on page 1312](#)  
The global parameters provide default settings for installation and common system library names.
- [“Runtime environment \(RTE\) parameters” on page 1332](#)  
The runtime environment parameters provide configuration settings for an individual runtime environment and default settings for the components and products configured in the runtime environment.
- [“Tivoli Enterprise Monitoring Server \(KDS\) parameters” on page 1372](#)  
The Tivoli Enterprise Monitoring Server parameters provide configuration settings for hub and remote monitoring servers on z/OS®.

<sup>7</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

- “Enhanced 3270 user interface parameters” on page 1437  
The OMEGAMON enhanced 3270 user interface has its own set of common configuration parameters, each of which begins with "KOB".

## Common agent parameters (Kpp and KAG)

Common agents are those agents that can be configured stand-alone in a runtime environment without a Tivoli Enterprise Monitoring Server. The parameters for these agents use *Kpp* and *KAG* prefixes.

The prefixes that can appear for the *pp* variable are found in the following table.

Table lists the three-letter product code for each product that uses Tivoli Management Services on z/OS.

<i>Table 122: Common agent parameter prefixes</i>	
<b>Agent name</b>	<b>Agent prefixes</b>
IBM System Automation for z/OS	KAH
IBM Z® OMEGAMON® for CICS®	KC5
IBM Z® OMEGAMON® for CICS® TG	KGW
IBM Tivoli Decision Support for z/OS	KDO
IBM Tivoli Composite Application Manager for SOA	KD4
IBM Z® OMEGAMON® AI for Db2	KD5
IBM OMEGAMON z/OS Management Console	KHL
IBM OMEGAMON for IMS on z/OS	KI5
IBM OMEGAMON for JVM on z/OS	KJJ
IBM OMEGAMON for Messaging - MQ Configuration	KMC <sup>8</sup>
IBM OMEGAMON for Messaging - MQ	KMQ
IBM OMEGAMON for Messaging - Integration Bus	KQI
OMEGAVIEW and OMEGAVIEW II	KMV, KWO
IBM Z® NetView Enterprise Management Agent	KNA
IBM OMEGAMON for Networks	KN3
IBM Tivoli Advanced Audit for DFSMSHsm	KRG
IBM Tivoli Advanced Reporting for DFSMSHsm	KRH
IBM Tivoli Advanced Allocation Management for z/OS	KRJ
IBM Tivoli Automated Tape Allocation Manager for z/OS	KRK
IBM Tivoli Advanced Catalog Management for z/OS	KRN
IBM Tivoli Advanced Backup and Recovery for z/OS	KRV
IBM Tivoli Tape Optimizer for z/OS	KRW
ITCAM for Application Diagnostics on z/OS	KYN

### KAG\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG

This parameter specifies whether to include the SYSTCPD DD statement in the Agent started task.

#### Required or optional

Required

#### Location where the parameter value is stored

N/A

<sup>8</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

**Parameter name and syntax**

N/A

**Default value**

Y

**Permissible values**

Y or N

**Description**

This flag is for the SYSTCPD DD: TCPDATA override. Override this DD card to explicitly identify which dataset to use to obtain the parameters defined by TCPIP.DATA when no GLOBALTCPIPDATA statement is configured. Refer to the *IBM z/OS Communications Server: IP Configuration Guide* for information on the TCPIP.DATA search order. TCPIP.SEZAINST(TCPDATA) is the default sample file. TCPIP.TCPPARMS(TCPDATA) is another sample and is created as part of the Installation Verification Program (IVP) for TCP/IP. To customize this value in PARMGEN mode, override this parameter in the CONFIG profile member in WCONFIG (\$CFG\$USR or the user-specified) prior to running the \$PARSE job and specify the GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA library accordingly.

**Related parameters**

- [“GBL\\_DSN\\_TCP\\_SYSTCPD\\_TCPDATA” on page 1327](#)

## Kpp\_AGT\_AUDIT\_ITM\_DOMAIN

This parameter is the audit domain name.

**Required or optional**

Optional

**Location where the parameter value is stored**

KppENV member of the *rhilev.rte*.RKANPARU library for the agent's runtime environment

**Parameter name and syntax**

ITM\_DOMAIN=%Kpp\_AGT\_AUDIT\_ITM\_DOMAIN%

**Default value**

None

**Permissible values**

Character string, maximum length 32.

**PARMGEN name**

Kpp\_AGT\_AUDIT\_ITM\_DOMAIN

**Description**

This field specifies an identifier that may be used to associate audit records. It is suited for commonly identifying agents that are associated with each other. An example use may be for sorting records by a particular customer. This field will also be used to create unique namespaces for RBAC.

**Related parameters**

- [“Kpp\\_AGT\\_AUDIT\\_TRACE” on page 1263](#)
- [“Kpp\\_AGT\\_AUDIT\\_MAX\\_HIST” on page 1262](#)
- [“KDS\\_AUDIT\\_TRACE” on page 1373](#)
- [“KDS\\_AUDIT\\_MAX\\_HIST” on page 1373](#)
- [“KDS\\_AUDIT\\_ITM\\_DOMAIN” on page 1372](#)

## Kpp\_AGT\_AUDIT\_MAX\_HIST

This parameter specifies the maximum in-memory cache entries; it is the maximum number of records kept in short-term memory for direct queries.

**Required or optional**

Optional

**Location where the parameter value is stored**

The AUDIT\_MAX\_HIST parameter in the RKANPARU data set, member KPPENV for the agent's runtime environment.

**Parameter name and syntax**

AUDIT\_MAX\_HIST=%Kpp\_AGT\_AUDIT\_MAX\_HIST%

**Default value**

None

**Permissible values**

10–1000

**PARMGEN name**

Kpp\_AGT\_AUDIT\_MAX\_HIST

**Description**

The maximum number of records kept in short-term memory for direct queries.

**Related parameters**

- [“Kpp\\_AGT\\_AUDIT\\_TRACE” on page 1263](#)
- [“Kpp\\_AGT\\_AUDIT\\_ITM\\_DOMAIN” on page 1262](#)
- [“KDS\\_AUDIT\\_TRACE” on page 1373](#)
- [“KDS\\_AUDIT\\_MAX\\_HIST” on page 1373](#)
- [“KDS\\_AUDIT\\_ITM\\_DOMAIN” on page 1372](#)

## **Kpp\_AGT\_AUDIT\_TRACE**

This parameter indicates the trace level to pass messages.

**Required or optional**

Optional

**Location where the parameter value is stored**

KppENV member of the *rhldev.rte*.RKANPARU library for the agent's runtime environment.

**Parameter name and syntax**

AUDIT\_TRACE=%Kpp\_AGT\_AUDIT\_TRACE%

**Default value**

None

**Permissible values**

M, B, D, X

**PARMGEN name**

Kpp\_AGT\_AUDIT\_TRACE

**Description**

This indicates the trace level to pass messages. Message trace levels, from low to high, are:

**X**

disabled

**M**

minimum

**B**

basic

**D**

detail

Higher levels imply all lower levels.

#### Related parameters

- [“Kpp\\_AGT\\_AUDIT\\_MAX\\_HIST” on page 1262](#)
- [“Kpp\\_AGT\\_AUDIT\\_ITM\\_DOMAIN” on page 1262](#)
- [“KDS\\_AUDIT\\_TRACE” on page 1373](#)
- [“KDS\\_AUDIT\\_MAX\\_HIST” on page 1373](#)
- [“KDS\\_AUDIT\\_ITM\\_DOMAIN” on page 1372](#)

## Kpp\_AGT\_CONFIGURATION\_MODE

Use the `KPP_AGT_CONFIGURATION_MODE` parameter to specify how you want to run the monitoring agent you are defining, in the agent address space or the server address space.

#### Required or optional

Required

#### Location where parameter value is stored

The parameter value is not stored, but is used for internal processing.

#### Parameter name

N/A

#### Default value

STANDALONE

#### Permissible values

One of the following:

- STANDALONE
- CMS

#### PARMGEN name

`KPP_AGT_CONFIGURATION_MODE`

#### PARMGEN classification

Values that describe the address space

#### Description

Agent configuration option

This parameter specifies how you want to run the monitoring agent you are defining.

When defining an agent, you have the option to run the agent in an agent address space or in the server address space. For performance reasons, you should run the agent in an agent address space. If you plan to run the agent in the server address space, the runtime environment must contain a server.

To run the agent in an agent address space, choose Option 3 (AGTCMS) in the Configuration software, which is the preferred configuration or specify STANDALONE in PARMGEN. Otherwise, use TEMS in PARMGEN to run the agent in the server. The procedures outlined in the product-specific planning and configuration guide assumes that you are running the recommended configuration for this agent, which is running in the agent address space.

#### Related parameters

None

## Kpp\_AGT\_COMM\_PROTOCOLn

This parameter specifies the communication protocol for the connection between the monitoring agent and the Tivoli Enterprise Monitoring Server.

## Description

This parameter specifies the communication protocol to be supported by the monitoring agent, where *n* corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols.

When communicating with the monitoring server, the agent first tries protocol 1, and then, in the case of failure, tries protocol 2 and so on.

The following IP-related protocols are available:

- IP.PIPE (IPPIPE): Non-secure TCP over IPv4
- IP.UDP (IP): Non-secure UDP over IPv4
- IP6.PIPE (IP6PIPE): Non-secure TCP over IPv6
- IP6.UDP (IP6): Non-secure UDP over IPv6
- IP.SPIPE (IPSPIPE): Secure (SSL/TLS) TCP over IPv4
- IP6.SPIPE (IP6SPIPE): Secure (SSL/TLS) TCP over IPv6

The following SNA protocol is available:

- SNA.PIPE (SNA): Systems Network Architecture (SNA) implementation of the Network Computing System (NCS) Remote Procedure Call (RPC) API

## Default value

*Kpp\_AGT\_COMM\_PROTOCOL1*: IPPIPE

*Kpp\_AGT\_COMM\_PROTOCOL2*: SNA

*Kpp\_AGT\_COMM\_PROTOCOL3* - *KDS\_TEMS\_COMM\_PROTOCOL7*: empty (no value)

## Permissible values

IPPIPE, IP, IP6PIPE, IP6, IPSPIPE, IP6SPIPE, SNA

## Related parameters

- [RTE\\_COMM\\_PROTOCOLn](#)
- ["KDS\\_TEMS\\_COMM\\_PROTOCOLn" on page 1395](#)
- ["Kpp\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM" on page 1294](#)
- ["Kpp\\_TEMS\\_TCP\\_PIPE6\\_PORT\\_NUM" on page 1295](#)
- ["Kpp\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM" on page 1295](#)
- ["Kpp\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM" on page 1295](#)
- ["Kpp\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM" on page 1295](#)
- ["Kpp\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM" on page 1296](#)
- ["Kpp\\_TEMS\\_TCP\\_UDP6\\_PORT\\_NUM" on page 1296](#)

## **Kpp\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR**

Use the *KPP\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR* parameter to specify the interval to force all deferred VSAM writes to DASD.

## Required or optional

Required

## Location where the parameter value is stored

In the *KPPAGST* member in the *rhilev.midlev.rtename.RKANCMDDU* library

### Parameter name

EVERY *HH*:*MM*:*SS* FLUSH (Flush VSAM buffers interval - hours)

### Default value

0 hours, 30 minutes

### Permissible values

0 - 24

## PARMGEN name

*KPP\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR*

## PARMGEN classification

Advanced Agent configuration values

## Description

Flush VSAM buffers interval - hours

This parameter specifies the interval to force all deferred VSAM writes to DASD. The interval values are written as part of the third EVERY command in the KPPAGST member in the *rhilev.midlev.rtename*.RKANCMDDU library. The default is 0 hours (hh) and 30 minutes (mm).

## Related parameters

None

## Kpp\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN

Use the KPP\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN parameter to specify the interval to force all deferred VSAM writes to DASD.

## Required or optional

Required

## Location where the parameter value is stored

In the KPPAGST member in the *rhilev.midlev.rtename*.RKANCMDDU library

### Parameter name

EVERY HH:MM:SS FLUSH (Flush VSAM buffers interval - mins)

### Default value

0 hours 30 minutes

### Permissible values

0 - 60

## PARMGEN name

KPP\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN

## Description

Flush VSAM buffers interval - mins

This parameter specifies the interval to force all deferred VSAM writes to DASD. The interval values are written as part of the third EVERY command in: *rhilev.midlev.rtename*.RKANCMDDU(KPPAGST) The default is 0 hours (hh) and 30 minutes (mm).

## Related parameters

None

## Kpp\_AGT\_DRA\_FLAG

The Kpp\_AGT\_DRA\_FLAG parameter controls the generation of the KOBAGENT startup command in the xKANCMDDU(KppAGST) member. KOBAGENT is the data retrieval agent (DRA) for the OMEGAMON Enhanced 3270 user interface.

## Required or optional

Required if you configure the OMEGAMON enhanced 3270 user interface component.

## Location where parameter value is stored

If the flag is set to Y, the AT ADD ID=KOB DELAY=00:00:10 CMD='IRAMAN KOBAGENT START' startup parameter is added to the KppAGST member of the *rhilev.rtename*.RKANCMDDU library.

### Default value

Y

### Permissible values

Y, N

## Description

This parameter allows you to control on an agent-by-agent basis whether or not to start up the DRA automatically. This flag is applicable to the following stand-alone agents:

- IBM Z® OMEGAMON® for CICS® (KC5)
- IBM Z® OMEGAMON® for CICS® TG (KGW)
- OMEGAMON® AI for Db2 (KD5)
- OMEGAMON for IMS on z/OS (KI5)
- OMEGAMON for JVM (KJJ)
- OMEGAMON for Messaging on z/OS (KMQ)
- OMEGAMON for Networks (KN3)

## Related parameters

[“KDS\\_TEMS\\_DRA\\_FLAG” on page 1397](#)

## Kpp\_AGT\_ICU\_LANGUAGE\_LOCALE

This parameter contains the language and code page (system locale) that you want the monitoring agent to use.

## Description

Language and region for the z/OS® system.

This parameter specifies the language and code page (system locale) that you want the monitoring agent to use. The language locale value is used for National Language Support.

The following table lists the acceptable languages:

Language locale	Code page	National language and region
1a or 1A	en_US.ibm-1047	English - United States (z/OS® UNIX® System Services)
1	en_US.ibm-037	English - United States
2	en_UK.ibm-285	English - United Kingdom
3	de_DE.ibm-273	German - Germany
4	de_CH.ibm-500	German - Switzerland
5	fr_BE.ibm-500	French - Belgium
6	fr_FR.ibm-297	French - France
7	fr_CH.ibm-500	French - Switzerland
8	es_ES.ibm-284	Spanish - Spain
9	it_IT.ibm-280	Italian - Italy
10	pt_PT.ibm-037	Portuguese - Portugal
11	pt_BR.ibm-037	Portuguese - Brazil
12	no_NO.ibm-277	Norwegian - Norway
13	sv_SE.ibm-278	Swedish - Sweden
14	da_DK.ibm-277	Danish - Denmark
15	fi_FI.ibm-278	Finnish - Finland
16	ja_JP.ibm-290	Japanese - Japan
17	fr_CA.ibm-500	French - Canada
18	zh_TW.ibm-937	Traditional Chinese - Taiwan
19	zh_CN.ibm-935	Simplified Chinese - China
20	sq_AL.ibm-500	Albanian - Albania

Language locale	Code page	National language and region
21	bg_BG.ibm-500	Bulgarian - Bulgaria
22	cs_CZ.ibm-870	Czech - Slovenia
23	nl_BE.ibm-500	Dutch - Belgium
24	nl_NL.ibm-037	Dutch - Netherlands
25	el_GR.ibm-87	Greek - Greece
26	iw_IL.ibm-424	Hebrew - Israel
27	ko_KR.ibm-933	Korean - Korea
28	lt_LT.ibm-1112	Lithuanian - Lithuania
29	mk_MK.ibm-1025	Macedonian - Macedonia
30	ro_RO.ibm-870	Romanian - Romania
31	ru_RU.ibm-1025	Russian - Russia
32	sr_SP.ibm-1025	Serbian - Serbia
33	sr_SP.ibm-870	Slovak - Slovakia
34	sk_SK.ibm-870	Slovenian - Slovenia
35	th_TH.ibm-838	Thai - Thailand
36	tr_TR.ibm-1026	Turkish - Turkey

#### Permissible values

Using code page: *lang.ibm-nnn*

Using language locale: 1a, 1A, 1-36

#### Default value

en\_US.ibm-1047

#### Related parameters

[“KDS\\_TEMS\\_ICU\\_LANGUAGE\\_LOCALE” on page 1403](#)

## Kpp\_AGT\_KGL\_WTO

Use the *KPP\_AGT\_KGL\_WTO* parameter to activate write-to-operator messages for a particular agent.

#### Required or optional

Required

#### Location where the parameter value is stored

In the *KPPENV* member of the *rhilev.midlev.rtename.RKANPARU* library

#### Parameter name

KGL\_WTO= (Enable agent WTO messages)

#### Default value

YES

#### Permissible values

YES or NO

#### PARMGEN name

*KPP\_AGT\_KGL\_WTO*

#### PARMGEN classification

Advanced Agent configuration values

#### Description

Enable agent WTO messages

Specify **Y** to this parameter if you want a SYSLOG message on the console to indicate when the monitoring agent finishes initializing. You can use this message in an automation script. See the automation package for your site for further instructions on how to capture the monitoring agent startup automation message IDs. If you specify **Y**, the KGL\_WTO=YES parameter is added to the *rhilev.midlev.rtename.RKANPARU(KPPENV)* member. The default is **N** for the Configuration Tool and **YES** for PARMGEN.

**Note:** The existence of the KGL\_WTO= parameter triggers the startup console messages. Therefore this parameter must not be present in the KPPENV member if you do not want this feature enabled. When it is enabled after configuration, the parameter is added to the KPPENV member. If you want to turn it off again, you can edit the configuration profile (PARMGEN) or RTEDEF(Kpp\$PARM(par)) for Configuration Manager and recycle the monitoring agent.

#### Related parameters

None

### Kpp\_AGT\_KLX\_TCP\_TOLERATERECYCLE

Use the KPP\_AGT\_KLX\_TCP\_TOLERATERECYCLE parameter to determine whether the monitoring agent address space reconnects to its TCP/IP stack without being recycled after the stack is recycled.

#### Required or optional

Optional

#### Location where the parameter value is stored

In the KPPINTCP member of the *rhilev.midlev.rtename.RKANPARU* library

#### Parameter name

```
TCP/IP_USERID='&tcpip_stc' TOLERATERECYCLE
```

#### Default value

Y

#### Permissible values

Y, N

#### PARMGEN name

```
KPP_AGT_KLX_TCP_TOLERATERECYCLE
```

#### PARMGEN classification

Advanced Agent configuration values

#### Description

Reconnect after TCP/IP recycle

The parameter determines whether the monitoring agent address space reconnects to its TCP/IP stack without being recycled after the stack is recycled. Set this parameter to **Y** to allow the monitoring agent address space to reconnect to the z/OS® Communications Server without having to subsequently recycle the address space. When this parameter is set to **Y**, the "TOLERATERECYCLE" keyword is added in the KPPINTCP member of the RKANPARU library. The parameter line is generated as: TCP/IP\_USERID=&tcp\_userid TOLERATERECYCLE.

If this parameter is set to **N**, when the z/OS® Communications Server is recycled, the monitoring agent address space must also be recycled to establish connectivity to TCP/IP. The default is **N**. Specify a value of **Y** to use **TOLERATERECYCLE** for PARMGEN.

**Note:** This parameter may be specified only when the monitoring agent is reporting to Tivoli® Enterprise Monitoring Server V6.2.0 and later versions.

#### Related parameters

None

## Kpp\_AGT\_PARTITION\_NAME

The *KPP\_AGT\_PARTITION\_NAME* parameter specifies the partition name that identifies the location of this monitoring server (TEMS namespace) relative to the firewalls used for address translation.

### Required or optional

Optional

### Location where the parameter value is stored

In the *KPPENV* member of the *rhilev.midlev.rtename.RKANPARU* library

#### Parameter name

*KDC\_PARTITION*= (Agent IP.PIPE partition name)

#### Default value

None

#### Permissible values

Character string, maximum length 32

### PARMGEN name

*KPP\_AGT\_PARTITION\_NAME*

### PARMGEN classification

If the Agent requires address translation support

### Description

Agent IP.PIPE partition name

This parameter specifies the partition name that identifies the location of this monitoring server (TEMS namespace) relative to the firewalls used for address translation.

**Note:** The Tivoli® Enterprise Monitoring Server that this monitoring agent connects to must have a corresponding partition reference entry.

This parameter is put into the partition table that contains labels and associated socket addresses that are provided by the firewall administrator.

The labels in the partition table are configured into and used by IBM® products on an external network, outside a firewall, during the Tivoli® Enterprise Monitoring Server (TEMS) connection establishment phase. The first part of this connection establishment is the lb lookup, which requires that the location brokers return the socket address of the monitoring agent.

The partition table is used by the brokers, matching a partition name for a client to the labels in the partition table. On a match, the associated socket address in the partition table is returned to the client outside the firewall. This socket address is used by the IBM® products to traverse the firewall and connect to the monitoring server.

Each entry consists of a label or partition name, a protocol (IP for UDP or IP.PIPE for TCP), and a host name or dotted-decimal IP address. The well-known port (Hub port) must be authorized by the firewall administrator.

- If UDP is the protocol configured in the partition table, then a range of (UDP) ports must be authorized by the firewall administrator (in addition to the well-known port).
- If TCP is the protocol, no additional ports other than the well-known TEMS port need be authorized.

### Related parameters

None

## Kpp\_AGT\_PPI\_RECEIVER

The `KPP_AGT_PPI_RECEIVER` parameter specifies the Program-to-Program Interface (PPI) values that enable the monitoring agent to forward Take Action commands to IBM Z® NetView.

### Required or optional

Required if the monitoring agent will be forwarding Take Action commands to the IBM Z® NetView Program-to-Program Interface (PPI).

### Location where the parameter value is stored

In the `KPPENV` member of the `rhilev.midlev.rtename.RKANPARU` library

#### Parameter name

`KGLHC_PPI_RECEIVER= (NetView® PPI receiver)`

#### Default value

This value defaults to the IBM Z® NetView PPI receiver used by the server if one is configured in this RTE. Otherwise, specify the default of **CNMPCMDR**.

#### Permissible values

Character string, maximum length 8

### PARMGEN name

`KPP_AGT_PPI_RECEIVER`

### PARMGEN classification

Take Action commands security settings

### Description

IBM Z® NetView PPI receiver.

The parameter specifies the Program to Program Interface (PPI) values that enable the monitoring agent to forward Take Action commands to IBM Z® NetView. The Tivoli® Enterprise Portal user ID is passed to IBM Z® NetView.

Specify the name of the PPI receiver on IBM Z® NetView that will receive Take Action commands. If the specified name is invalid or the receiver is not active on IBM Z® NetView, default (MGCR) command routing is performed. The value should be a 1-8 character, unique identifier for the receiver program. It can contain alphabetic characters A-Z or a-z, numeric characters 0-9, and the following special characters:

- dollar sign (\$)
- percent sign (%)
- ampersand (&)
- number sign (#)

This value must match the `xyz` value coded on statement `AUTOTASK.?APSERV.InitCmd = APSERV xyz` in the IBM Z® NetView DSIPARM initialization member, `CNMSTYLE`. The Configuration Software generates the `KGLHC_PPI_RECEIVER` parameter in the `KPPENV` member of the `rhilev.midlev.rtename.RKANPARU` library. This value defaults to the IBM Z® NetView PPI receiver used by the Server if one is configured in this RTE. Otherwise, specify the default of `CNMPCMDR`. See the IBM Z® NetView online help for command `APSERV` for more details.

To enable this function, specify a value on the `KPP_AGT_PPI_RECEIVER` parameter. Ensure that the parameter is not commented out and the value is enclosed in double quotation marks ("). To disable this function, simply comment out the parameter with asterisks (\*).

For complete instructions, see [“Configuring IBM Z NetView authorization of z/OS commands” on page 544](#).

### Related parameters

None

## Kpp\_AGT\_PPI\_SENDER

The `KPP_AGT_PPI_SENDER` parameter specifies the Program-to-Program Interface (PPI) values that enable the monitoring agent to forward Take Action commands to IBM Z® NetView.

**Required or optional**

Required if the monitoring agent will be forwarding Take Action commands to the IBM Z® NetView Program-to-Program Interface (PPI).

**Location where the parameter value is stored**

In the *KPPENV* member of the *rhilev.midlev.rtename.RKANPARU* library

**Parameter name**

KGLHC\_PPI\_SENDER (Agent PPI sender)

**Default value**

None

**Permissible values**

Character string, maximum length 8

**PARMGEN name**

KPP\_AGT\_PPI\_SENDER

**PARMGEN classification**

Take Action commands security settings

**Description**

Agent PPI sender.

The parameter specifies the Program to Program Interface (PPI) values that enable the monitoring agent to forward Take Action commands to IBM Z® NetView. The Tivoli® Enterprise Portal user ID gets passed to IBM Z® NetView.

Specify the optional name of the PPI sender. The value should be a 1-8 character, unique identifier for the sender program. It can contain alphabetic characters A-Z or a-z, numeric characters 0-9, and the following special characters: dollar sign ('\$'), percent sign ('%'), ampersand ('&'), at sign ('@'), and number sign ('#'). This name should not conflict with any IBM Z® NetView domain name, as it is used in logging the command and command response in the IBM Z® NetView log. If a value is specified on this field, the Configuration Software generates the KGLHC\_PPI\_SENDER parameter in the *KPPENV* member of the *rhilev.midlev.rtename.RKANPARU* library. If a value is not specified on this field, the default is the current monitoring agent *jobname* that is the source of the command.

For complete instructions, see [“Configuring IBM Z NetView authorization of z/OS commands” on page 544](#).

**Related parameters**

None

**Kpp\_AGT\_STC**

Use the *KPP\_AGT\_STC* parameter to specify the started task name for the agent.

**Required or optional**

Required if you configure the monitoring agent in its own address space

**Location where the parameter value is stored**

Value becomes the name of the monitoring agent started task procedure member in the *rhilev.midlev.rtename.RKANSAMU* library for stand-alone agents.

**Parameter name**

N/A

**Default value**

IBMpp (PARMGEN)

**Permissible values**

Character string, maximum length 8

**Batch parameter name**

KPP\_AGT\_STC

**PARMGEN name**

KPP\_AGT\_STC

#### PARMGEN classification

Values that describe the address space

#### Description

Agent started task name

This parameter specifies the started task name for the agent. This started task must be copied to your system procedure library. The default in PARMGEN is *IBMpp*.

The configuration software created started task procedures in *rhilev.midlev.rtename.RKANSAMU* that you must copy to your started task library. If you have configured an agent address space, copy the monitoring agent started task from *rhilev.midlev.rtename.RKANSAMU* to your started task library (PROCLIB). If you have configured the agent in the TEMS address space, then the TEMS started task procedure will be updated in *rhilev.midlev.rtename.RKANSAMU* (the default name for PARMGEN is *IBMDS*) and this started task must be copied to your started task library (PROCLIB).

**Note:** You might also use the sample system copy JCL to copy the system procedures and the VTAM major node members from the *rhilev.midlev.rtename.RKANSAMU* library to the system libraries (if applicable). The sample JCL can be generated from the RTE Utility option using the Configuration Software. In PARMGEN, the JCL is copied by the *KCIJcSYS* job. This job is not submitted automatically by the composite submit job because it requires write access to the system libraries. You must uncomment the *KCIJcSYS* in the *KCIJcSUB* job to submit it.

#### Related parameters

None

## Kpp\_AGT\_STORAGE\_DETAIL\_INT\_HR

Use the *KPP\_AGT\_STORAGE\_DETAIL\_INT\_HR* parameter to set the interval to monitor storage.

#### Required or optional

Required

#### Location where the parameter value is stored

Part of the second EVERY command in the *KPPAGST* member of the *rhilev.midlev.rtename.RKANCMDU* library

#### Parameter name

EVERY HH:MM:SS STORAGE D (Storage detail logging interval - hours)

#### Default value

0

#### Permissible values

0 - 24

#### PARMGEN name

*KPP\_AGT\_STORAGE\_DETAIL\_INT\_HR*

#### PARMGEN classification

Advanced Agent configuration values

#### Description

Storage detail logging interval - hours

This parameters sets the interval to monitor storage. The interval values are written as part of the second EVERY command in: *rhilev.midlev.rtename.RKANCMDU(KPPAGST)* The default is **0** hours (hh) and **60** minutes (mm).

#### Related parameters

None

## Kpp\_AGT\_STORAGE\_DETAIL\_INT\_MIN

Use the `KPP_AGT_STORAGE_DETAIL_INT_MIN` parameter to set the interval to monitor storage.

### Required or optional

Required

### Location where the parameter value is stored

Part of the second EVERY command in the `KPPAGST` member of the `rhilev.midlev.rtename.RKANCMDU` library

### Parameter name

EVERY HH:MM:SS STORAGE D (Storage detail logging interval - minutes)

### Default value

60

### Permissible values

0 - 60

### PARMGEN name

`KPP_AGT_STORAGE_DETAIL_INT_MIN`

### PARMGEN classification

Advanced Agent configuration values

### Description

Storage detail logging interval - minutes

This parameters sets the interval to monitor storage. The interval values are written as part of the second EVERY command in: `rhilev.midlev.rtename.RKANCMDU(KPPAGST)` The default is **0** hours (hh) and **60** minutes (mm).

### Related parameters

None

## Kpp\_AGT\_STORAGE\_MINIMUM\_EXTEND

Use the `KPP_AGT_STORAGE_MINIMUM_EXTEND` parameter to specify the amount of virtual storage the monitoring agent must acquire to run at your site.

### Required or optional

Required

### Location where the parameter value is stored

In the `KPPSYSIN` member of the `rhilev.midlev.rtename.RKANPARU` library

### Parameter name

MINIMUM (nnnnnn,X) (Minimum extended storage)

### Default value

Differs by product

### Permissible values

0 - 9999999

### PARMGEN name

`KPP_AGT_STORAGE_MINIMUM_EXTEND`

### PARMGEN classification

Advanced Agent configuration values

### Description

Minimum extended storage

This parameter specifies the amount of virtual storage the monitoring agent must acquire to run at your site. The default differs by product. Check the documentation for each product to determine the default.

#### Related parameters

None

## Kpp\_AGT\_TCP\_HOST

This parameter specifies the host name of the system that the agent is running on.

#### Description

Agent TCP/IP host name.

This parameter specifies the host name of the system that the agent is running on. This value is the TCP/IP host name or dotted decimal IP address of the z/OS® system where the hub monitoring server is installed.

To obtain the host name or IP address, enter `TSO HOMETEST` at the command line. If the z/OS® domain name resolver configuration specifies a search path that includes the target domain suffix, specify only the first qualifier of the host name. (Example: `sys` is the first qualifier of the fully qualified host name `sys.ibm.com`.) Otherwise, specify the fully qualified host name.

This field is required if you plan to have this agent communicate with the Tivoli® Enterprise Monitoring Server using TCP/IP.

#### Default value

Value set for the `RTE_TCP_HOST` parameter for the runtime environment

#### Permissible values

Character string, maximum length 32

#### Related parameters

None

## Kpp\_AGT\_TCP\_KDEB\_INTERFACELIST

This parameter specifies a list of network interfaces for the monitoring agent to use for IPv4 communication.

#### Description

This parameter specifies one or more network interfaces for the monitoring agent to use for IPv4 communication.

**Note:** To modify this parameter value using Configuration Manager, use parameter `"RTE_TCP_KDEB_INTERFACELIST"` on page 295, which sets the same value for the monitoring server and the monitoring agents.

If the agent requires network interface list support and your site runs more than one TCP/IP interface or network adapter on the same z/OS image, you can specify network interfaces to be used by monitoring servers and monitoring agents running on a z/OS system. You specify the network interfaces in the IP communication protocol parameters for each component.

This parameter is required for sites that are running multiple TCP/IP interfaces or network adapters on the same z/OS® image.

Setting this parameter allows you to direct the monitoring agent to connect to a specific TCP/IP local interface. Specify the network adapters as one or more of the following values:

- A fully-qualified hostname, for example `sys.ibm.com`
- The first qualifier of the fully-qualified hostname, for example `sys` from `sys.ibm.com`
- An IPv4 address in dotted-decimal notation, for example `9.67.1.100`

If your site supports DNS, you can enter the short hostname or an IP address. If your site does not support DNS, you must enter the fully-qualified hostname. This field is only applicable for networks with multiple interface cards for which a specific output network interface list is required.

Specify !\* as the value if this agent runs on the same candidate z/OS image where a high-availability (HA) hub TEMS is running.

Special considerations apply when specifying !*hostname* or \* for this field.

- Use !*hostname* to specify a value for the interface address.
- Use an asterisk (\*) to indicate all values are allowed for the interface address.

Separate the entries using a blank (space) between interface addresses. For example:

```
==> 129.0.131.214 SYS1 SYS.IBM.COM
```

#### Default value

##### For Configuration Manager:

Value set for parameter "RTE\_TCP\_KDEB\_INTERFACELIST" on page 295, which defaults to !\*

##### For PARMGEN:

None

#### Permissible values

Character string, maximum length 44

#### Related parameters

- "KDS\_TEMS\_TYPE" on page 1417
- "KDS\_TEMS\_HA\_TYPE" on page 1402
- "KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST" on page 1412
- "RTE\_TCP\_KDEB\_INTERFACELIST" on page 295

## Kpp\_AGT\_TCP\_STC

Use the *KPP\_AGT\_TCP\_STC* parameter to specify the name of the TCP/IP started task running on the monitoring agent host.

#### Required or optional

Optional. Required if you plan to have this agent communicate with Tivoli® Enterprise Monitoring Server using TCP/IP.

#### Location where the parameter value is stored

In the *KppINTCP* member of the *rhilev.midlev.rtename.RKANPARU* library

##### Parameter name

TCP/IP\_USERID='\*' (TCP/IP started task)

##### Default value

#

##### Permissible values

Character string, maximum length 8

#### PARMGEN name

*KPP\_AGT\_TCP\_STC*

#### PARMGEN classification

Agent's local TCP/IP information

#### Description

TCP/IP started task

This parameter specifies the name of the TCP/IP started task running on the monitoring agent host. This a required field if you plan to have this agent communicate with the server using TCP/IP.

This parameter identifies the TCP/IP stack to be used. If the LPAR contains more than one TCP/IP stack, specify the started task name of the TCP/IP stack you want to use.

Alternatively, you can specify the number sign (#), which is translated to a blank and allows the TCP/IP environment to choose the stack to use, either through TCP/IP definitions or through the use of the SYSTCPD DD statement.

Whichever method is used to select a TCP/IP stack in a multi-stack environment, the Tivoli® Management Services components continue to use that stack, even if a different stack becomes the primary stack. Therefore, in a multi-stack environment, it is best to specify the started task name of the TCP/IP stack to be used, rather than specifying a wildcard or a blank.

#### Related PARMGEN CONFIG profile parameters

- [“GBL\\_DSN\\_TCP\\_SYSTCPD\\_TCPDATA” on page 1327](#)
- [“KDS\\_X\\_STC\\_SYSTCPD\\_INCLUDE\\_FLAG” on page 1425](#)

## Kpp\_AGT\_TEMA\_SDA

This parameter indicates whether the agent has enabled the self-describing agent (SDA) function in the agent address space.

#### Required or optional

Required

#### Location where the parameter value is stored

KppENV member of the *rhilev.rte.RKANPARU* library for the agent’s runtime environment.

#### Parameter name and syntax

TEMA\_SDA=%Kpp\_AGT\_TEMA\_SDA%

#### Default value

Y

#### Permissible values

Y, N

#### PARMGEN name

Kpp\_AGT\_TEMA\_SDA

#### Description

This parameter indicates whether the agent has enabled the self-describing agent (SDA) function in the agent address space.

#### Related parameters

- [“GBL\\_HFS\\_JAVA\\_DIRn” on page 1328](#)
- [“GBL\\_DSN\\_SYS1\\_SBPXEXEC” on page 1324](#)
- [“RTE\\_USS\\_RTEDIR” on page 1360](#)
- [“KDS\\_KMS\\_SDA” on page 1378](#)
- [“KDS\\_TEMA\\_SDA” on page 1394](#)

## Kpp\_AGT\_TEMS\_NAME\_NODEID

Use the KPP\_AGT\_TEMS\_NAME\_NODEID parameter to specify the primary Tivoli® Enterprise Monitoring Server values for configuring an agent in its own address space.

#### Required or optional

Optional

#### Location where the parameter value is stored

In the KPPENV member in the *rhilev.midlev.rtename.RKANPARU* library

#### Parameter name and syntax

CT\_CMSLIST=%KPP\_AGT\_TEMS\_NAME\_NODEID

**Default value**

*&rtename*:CMS

**Permissible values**

A string of up to 8 case-sensitive characters defining the node ID of the Tivoli Enterprise Monitoring Server to which you are connecting the agent.

**PARMGEN name**

*KPP\_AGT\_TEMS\_NAME\_NODEID*

**PARMGEN classification**

Values that describe the primary TEMS this agent will connect to: specify the primary TEMS (*Kpp\_TEMS\_TCP\_\** and *Kpp\_TEMS\_VTAM\_\**) parameter values that the agent will connect to.

**Related parameters**

- [“Kpp\\_TEMS\\_NAME\\_NODEID” on page 1293](#)

**Related PARMGEN CONFIG profile parameters*****Kpp\_TEMS\_BKUP1\_\****

Agent's backup TEMS parameter values. The agent's primary and backup TEMS parameter values are used in the CT\_CMSLIST parameter in the agent's *xKANPARU(KppENV)* member.

***Kpp\_AGT\_VIRTUAL\_IP\_ADDRESS***

Use the *KPP\_AGT\_VIRTUAL\_IP\_ADDRESS* parameter to set this parameter to the type of VIPA defined for this z/OS® system.

**Required or optional**

Required

**Location where the parameter value is stored**

The parameter value is not stored, but is used for internal processing.

**Parameter name**

AGVIPA (VIPA type for the z/OS® system)

**Default value**

N

**Permissible values**

S (static), D (dynamic), or N (none)

**PARMGEN name**

*KPP\_AGT\_VIRTUAL\_IP\_ADDRESS*

**PARMGEN classification**

Advanced Agent configuration values

**Description**

VIPA type for the z/OS® system

Set this parameter to the type of VIPA defined for this z/OS® system. If the monitoring agent address space is a VIPA-defined application, specify if the VIPA definition is Static or Dynamic. If VIPA is in use, the VIPA name is resolvable through the Domain Name Server (DNS).

**Note:** The IP.PIPE protocol is required when dynamic VIPA is in use.

**Related parameters**

None

## **Kpp\_AGT\_VTAM\_APPL\_AA**

Use the *KPP\_AGT\_VTAM\_APPL\_AA* parameter to specify the Alert Adapter application identifier for the agent address space.

### **Required or optional**

Required

### **Location where the parameter value is stored**

In the VTAM® major node (CTDPPN is the default) member of the of the *rhilev.midlev.rtename.RKANSAMU* library

#### **Parameter name**

N/A

#### **Default value**

CTDPPAA

#### **Permissible values**

A valid applid name no longer than 8 characters in length

### **PARMGEN name**

*KPP\_AGT\_VTAM\_APPL\_AA*

### **Description**

VTAM® applid for Alert Adapter

This parameter specifies the Alert Adapter application identifier for the agent address space. This value is normally specified in “*Kpp\_AGT\_VTAM\_APPL\_PREFIX*” on page 1281, with the characters **AA** appended to it.

### **Related parameters**

None

## **Kpp\_AGT\_VTAM\_APPL\_KPPINVPO**

Use the *KPP\_AGT\_VTAM\_APPL\_KPPINVPO* parameter to specify the VPO VTAM® application identifier for the agent address space.

### **Required or optional**

Required

### **Location where the parameter value is stored**

In the CTDPPN member of the of the *rhilev.midlev.rtename.RKANSAMU* library

#### **Parameter name**

N/A

#### **Default value**

CTDPPVP

#### **Permissible values**

A valid applid name no longer than 8 characters in length

### **PARMGEN name**

*KPP\_AGT\_VTAM\_APPL\_KPPINVPO*

### **PARMGEN classification**

Agent applids

### **Description**

VTAM® applid for VPO interface

This parameter specifies the VPO VTAM® application identifier for the agent address space. This value is normally specified in “[Kpp\\_AGT\\_VTAM\\_APPL\\_PREFIX](#)” on [page 1281](#), with the characters VP appended to it.

#### Related parameters

None

## Kpp\_AGT\_VTAM\_APPL\_NCS

Use the *KPP\_AGT\_VTAM\_APPL\_NCS* parameter to specify the Network Computing System (NCS) application identifier for the agent address space.

#### Required or optional

Required

#### Location where the parameter value is stored

In the CTDPN member of the of the *rhilev.midlev.rtename.RKANSAMU* library

##### Parameter name

N/A

##### Default value

CTDPPNC

##### Permissible values

A valid node name no more than 8 characters in length

#### PARMGEN name

*KPP\_AGT\_VTAM\_APPL\_NCS*

#### PARMGEN classification

Agent applids

#### Description

Agent to server connection applid

This parameter specifies the Network Computing System (NCS) application identifier for the agent address space. This value is normally specified in “[Kpp\\_AGT\\_VTAM\\_APPL\\_PREFIX](#)” on [page 1281](#), with the characters **NC** appended to it.

#### Related parameters

- “[Kpp\\_AGT\\_VTAM\\_APPL\\_PREFIX](#)” on [page 1281](#)

## Kpp\_AGT\_VTAM\_APPL\_OPERATOR

Use the *KPP\_AGT\_VTAM\_APPL\_OPERATOR* parameter to specify the operator VTAM® application identifier for the agent address space.

#### Required or optional

Required

#### Location where the parameter value is stored

In the CTDPN member of the of the *rhilev.midlev.rtename.RKANSAMU* library

##### Parameter name

N/A

##### Default value

CTDPPOR

##### Permissible values

A valid applid name no longer than 8 characters in length

#### PARMGEN name

KPP\_AGT\_VTAM\_APPL\_OPERATOR

**PARMGEN classification**

Agent applids

**Description**

VTAM® applid for the non-CUA operator

This parameter specifies the operator VTAM® application identifier for the agent address space. This is normally the value specified in “[Kpp\\_AGT\\_VTAM\\_APPL\\_PREFIX](#)” on page 1281, with the characters OR appended to it.

**Related parameters**

None

## Kpp\_AGT\_VTAM\_APPL\_PREFIX

Use the KPP\_AGT\_VTAM\_APPL\_PREFIX parameter to build the VTAM® applids for the agent.

**Required or optional**

Required for SNA communications

**Location where the parameter value is stored**

The VTAMLST definition is created in the *rhilev.midlev.rtename*.RKANSAMU library. Copy this definition to your SYS1.VTAMLST library.

**Parameter name**

VTAMLST

**Default value**

CTDPP

**Permissible values**

A character string of up to 6 characters

**PARMGEN name**

KPP\_AGT\_VTAM\_APPL\_PREFIX

**PARMGEN classification**

Agent applids

**Description**

Agent Applid prefix

This parameter is a prefix that is used to build the VTAM® applids for the agent. This is a required field if you plan to have the monitoring agent communicate with the server using VTAM®.

This parameter specifies the applid prefix to establish the VTAM® node and applid list. The product creates a customized VTAMLST definition in the *rhilev.midlev.rtename*.RKANSAMU library, which you then copy to your SYS1.VTAMLST library after the Configuration Software work is complete. The default is **CTDPP**.

**Note:**

1. Each product requires its own set of IDs. Make sure that the product identifiers are unique.
2. Do not confuse this value with “[Kpp\\_AGT\\_VTAM\\_NODE](#)” on page 1282, the value for specifying the VTAM® major node.

**Related parameters**

None

## Kpp\_AGT\_VTAM\_NODE

Use the *KPP\_AGT\_VTAM\_NODE* parameter to specify the name that will be used to build the VTAM® node entry for the agent.

### Required or optional

Required for SNA communications

### Location where the parameter value is stored

In the *CTDPPN* member of the *rhilev.midlev.rtename.RKANSAMU* library

#### Parameter name

*XPPAPLN*

#### Default value

*CTDPPN*

#### Permissible values

A valid node name no more than 8 characters in length

### PARMGEN name

*KPP\_AGT\_VTAM\_NODE*

### PARMGEN classification

Agent's local VTAM® and logon information

### Description

Agent node name

This parameter specifies the name that will be used to build the VTAM® node entry for the agent. This is a required field if you plan to have the agent communicate with the server using VTAM®.

Specify the name of the VTAM® major node name that contains all the VTAM® APPLID definitions for OMEGAMON® for Networks. This member must be moved to your VTAMLST concatenation. The name of this major node is also the name used to activate the VTAM® APPLIDs. The default is **CTDPPN**.

### Related parameters

- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)

## Kpp\_AGT\_WTO\_MSG

Use the *KPP\_AGT\_WTO\_MSG* parameter to specify whether you want the monitoring agent address space to issue Write To Operator (WTO) messages.

### Required or optional

Required

### Location where the parameter value is stored

In the *KPPSYSIN* member of the *rhilev.midlev.rtename.RKANPARU* library

#### Parameter name

*WTO(N)* (Enable WTO messages)

#### Default value

N

#### Permissible values

Y, N

### PARMGEN name

*KPP\_AGT\_WTO\_MSG*

### PARMGEN classification

Advanced Agent configuration values

## Description

Enable WTO messages

Specify **Y** as the value for this parameter if you want the monitoring agent address space to issue Write To Operator (WTO) messages. WTOs write information and exception condition messages to the operator consoles. Alert messages are always written to the consoles. The default is **N**.

## Related parameters

None

## Kpp\_CLASSIC\_PASSPHRASE

This parameter specifies the passphrase support setting for the OMEGAMON 3270 Classic interface.

This parameter is supported for the following products, each listed with its product code (*pp*):

- OMEGAMON for CICS (C2)
- OMEGAMON® AI for Db2 (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

## Description

This parameter controls if passphrase support is enabled, and, if so, the layout of the password fields on the OMEGAMON 3270 Classic interface logon screen. Multiple configuration options are provided.

**Note:** It is recommended that you review the available configuration options, especially if you use programs to automate the logon process to the OMEGAMON 3270 Classic interface that rely on static placement of keywords and input fields.

When passphrase support is enabled, use parameter **Kpp\_CLASSIC\_SECCLASS** to set the SAF security class that is used to permit or deny user access during logon to the OMEGAMON 3270 Classic interface, and use **Kpp\_CLASSIC\_SAFAPPL** to set the SAF application ID. If passphrase support is not enabled, you can use a security exit where you can specify the SAF class name and SAF application ID.

## Required or optional

Optional

## Default value

NO

## Valid values

### PARTIAL

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of a single line. The minimum length of each of these fields is 34 bytes, and the maximum length (which can be up to 100 bytes) depends on the screen width. The fields are aligned in the center of the screen.

### MAX62

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of a single line. The minimum length of each of these fields is 62 bytes, and the maximum length (which can be up to 100 bytes) depends on the screen width. The fields are aligned at the left of the screen.

### FULL

Passphrase support is enabled with the **PASSWORD** and **NEW PASSWORD** fields each consisting of two lines. The value in the second line is concatenated onto the end of the value in the first line. The length of the first line is 34 bytes and the length of the second line is 66 bytes, allowing the maximum passphrase value of 100 bytes to be entered. The fields are aligned in the center of the screen.

### NO or NONE

Passphrase support is not enabled. The lengths of the **PASSWORD** and **NEW PASSWORD** fields are eight bytes each. If you have external security defined using a security exit, the fields are aligned in the

center of the screen. If you do not have external security defined, none of the fields for credentials appear on the logon screen.

#### Related parameters

- [Kpp\\_CLASSIC\\_SAFAPPL](#)
- [Kpp\\_CLASSIC\\_SECCLASS](#)

### **Kpp\_CLASSIC\_SAFAPPL**

This parameter specifies the name of the SAF application ID for OMEGAMON 3270 Classic interface security.

This parameter is supported for the following products, each listed with its product code (*pp*):

- OMEGAMON for CICS (C2)
- OMEGAMON® AI for Db2 (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

#### Description

When passphrase support is enabled, this parameter specifies the name of the SAF application ID (APPL=) for OMEGAMON 3270 Classic interface security. This value is used by the primary OMEGAMON logon program, KOBVTAM, when calling the SAF security system, such as in the following example:

```
RACROUTE . . ,APPL=
```

**Important:** When passphrase support is enabled, security exits are not used.

#### Required or optional

Optional

#### Default value

CANDLE

#### Related parameters

- [Kpp\\_CLASSIC\\_PASSPHRASE](#)
- [Kpp\\_CLASSIC\\_SECCLASS](#)

### **Kpp\_CLASSIC\_SECCLASS**

This parameter specifies the name of the SAF security class for OMEGAMON 3270 Classic interface security.

This parameter is supported for the following products, each listed with its product code (*pp*):

- OMEGAMON for CICS (C2)
- OMEGAMON® AI for Db2 (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

#### Description

When passphrase support is enabled, this parameter specifies the name of the SAF security class that is used to permit or deny user access during logon to the OMEGAMON 3270 Classic interface. This value is used by the primary OMEGAMON logon program, KOBVTAM.

**Note:** When passphrase support is enabled, security exits are not used.

**Required or optional**

Optional

**Default value**

OMCANDLE

**Related parameters**

- Kpp\_CLASSIC\_PASSPHRASE
- Kpp\_CLASSIC\_SAFAPPL

## **Kpp\_CLASSIC\_TIMEOUT**

This parameter specifies the OMEGAMON 3270 Classic interface idle session timeout value.

This parameter is supported for the following products, each listed with its product code (*pp*):

- OMEGAMON for CICS (C2)
- OMEGAMON® AI for Db2 (D2)
- OMEGAMON for IMS (I2)
- OMEGAMON for z/OS (M2)
- IBM Z OMEGAMON Monitor for z/OS (M2)

**Description**

This parameter controls the maximum number of minutes that a user session of the OMEGAMON 3270 Classic interface can be idle before the session is canceled.  
The timeout value is in minutes, and 0 indicates that the session will not be timed out.

**Default value**

0

**Valid values**

0 - 99

## **Kpp\_PD\_CYL**

Use the *KPP\_PD\_CYL* parameter to specify the space allocation for the persistent data store libraries and for overhead information such as the product dictionary, table records, index records, and buffers to hold overflow data when the libraries are full.

**Required or optional**

Optional

**Location where the parameter value is stored**

The *KPPAL* member of the *rhilev.midlev.rtename.RKANPARU* library

**Parameter name**

DSG3390 (Datastore group space)

**Default value**

The configuration software computes this value using a formula using the *SIZE*, *WINDOW*, and *UNIT TYPE* values. The default differs by product.

**Permissible values**

1 - 9999

**PARMGEN name**

*KPP\_PD\_CYL*

## PARMGEN classification

Persistent datastore table space allocation overrides

## Description

Datastore group space

The parameter specifies the space allocation for the persistent data store libraries and for overhead information such as the product dictionary, table records, index records, and buffers to hold overflow data when the libraries are full. Allocate enough storage so that maintenance procedures are run only once a day. For more information about the persistent data store, see the [“Persistent data store V1 \(PDS V1\)”](#) on page 1195.

## Related parameters

- [“RTE\\_PDS\\_HILEV”](#) on page 1342
- [“RTE\\_PDS\\_KPDPROC\\_PREFIX”](#) on page 1342
- [“RTE\\_PDS\\_BACKUP\\_FLAG”](#) on page 1340
- [“RTE\\_PDS\\_BATCHINIT\\_FLAG”](#) on page 1340
- [“RTE\\_PDS\\_EXPORT\\_FLAG”](#) on page 1341
- [“RTE\\_PDS\\_EXTRACT\\_FLAG”](#) on page 1342
- [“Kpp\\_PDS\\_FILE\\_COUNT”](#) on page 1288
- [“RTE\\_PDS\\_SMS\\_VOLUME”](#) on page 1343
- [“RTE\\_PDS\\_SMS\\_UNIT”](#) on page 1343
- [“RTE\\_PDS\\_SMS\\_STORCLAS”](#) on page 1343
- [“RTE\\_PDS\\_SMS\\_MGMTCLAS”](#) on page 1343
- [“Kpp\\_PD\\_HISTCOLL\\_DATA\\_IN\\_AGT\\_STC”](#) on page 1286
- [“Kpp\\_PD\\_HISTCOLL\\_DATA\\_IN\\_TEMS\\_STC”](#) on page 1287

## Kpp\_PD\_HISTCOLL\_DATA\_IN\_AGT\_STC

Use the `KPP_PD_HISTCOLL_DATA_IN_AGT_STC` parameter to specify that historical collection is being performed by the monitoring agent address space.

## Required or optional

Optional

## Location where parameter value is stored

`KppAL`, `KppPG`, `KppDEFIN`, and `KppPCTL` members of the `rhilev.rte.RKANPARU` library for the runtime environment of the Agent

## Parameter name

N/A

## Default value

Y

## Permissible values

Y, N

## PARMGEN name

`Kpp_PD_HISTCOLL_DATA_IN_AGT_STC`

## Related parameters

- [“RTE\\_PDS\\_HILEV”](#) on page 1342
- [“RTE\\_PDS\\_KPDPROC\\_PREFIX”](#) on page 1342
- [“RTE\\_PDS\\_BACKUP\\_FLAG”](#) on page 1340

- [“RTE\\_PDS\\_BATCHINIT\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_EXPORT\\_FLAG” on page 1341](#)
- [“RTE\\_PDS\\_EXTRACT\\_FLAG” on page 1342](#)
- [“Kpp\\_PDS\\_FILE\\_COUNT” on page 1288](#)
- [“RTE\\_PDS\\_SMS\\_VOLUME” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_UNIT” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_STORCLAS” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_MGMTCLAS” on page 1343](#)
- [“Kpp\\_PD\\_HISTCOLL\\_DATA\\_IN\\_TEMS\\_STC” on page 1287](#)

## **Kpp\_PD\_HISTCOLL\_DATA\_IN\_TEMS\_STC**

Use the `KPP_PD_HISTCOLL_DATA_IN_TEMS_STC` parameter to specify whether historical collection is being performed by the Tivoli® Enterprise Monitoring Server address space.

### **Required or optional**

Required

### **Location where parameter value is stored**

KPDAL/*Kpp*AL, KPDPG/*Kpp*AL, KPDDFIN, and KPDPCTL members of the *rhilev.rte*.RKANPARU library for the runtime environment of the TEMS.

### **Parameter name**

N/A

### **Default value**

Differs by product. Some agents allow collection only in the agent address space, others allow collection only at the monitoring server.

### **Permissible values**

Y, N

### **PARMGEN name**

`Kpp_PD_HISTCOLL_DATA_IN_TEMS_STC`

### **Related parameters**

- [“RTE\\_PDS\\_HILEV” on page 1342](#)
- [“RTE\\_PDS\\_KPDPROC\\_PREFIX” on page 1342](#)
- [“RTE\\_PDS\\_BACKUP\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_BATCHINIT\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_EXPORT\\_FLAG” on page 1341](#)
- [“RTE\\_PDS\\_EXTRACT\\_FLAG” on page 1342](#)
- [“Kpp\\_PDS\\_FILE\\_COUNT” on page 1288](#)
- [“RTE\\_PDS\\_SMS\\_VOLUME” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_UNIT” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_STORCLAS” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_MGMTCLAS” on page 1343](#)
- [“Kpp\\_PD\\_HISTCOLL\\_DATA\\_IN\\_AGT\\_STC” on page 1286](#)

## Kpp\_PDS\_FILE\_COUNT

This parameter contains the number of historical data sets in the group.

### Required or optional

Optional

### PARMGEN name

Kpp\_PDS\_FILE\_COUNT

### Description

Number of historical data sets in the group defined by the Kpp\_PD\_GRP parameter. The value specified for this parameter is applied to the corresponding Kpp product configured in the runtime environment. The possible values range from 3 to 36. The default value is 6, but the best value for the following products is 7:

- IBM Z® OMEGAMON® for CICS®
- IBM® OMEGAMON® for Networks
- IBM® OMEGAMON® for z/OS®

Therefore, set a value of 7 if OMEGAMON® for CICS®, OMEGAMON® for Networks, or OMEGAMON® for z/OS® is to be configured in the runtime environment.

### Related parameters

- N/A

## Kpp\_PDS2\_ACTIVATION

Agent-specific activation switch

### Description

This parameter indicates whether to activate persistent data store V2 support for a specific agent.

**Y**

If global switch RTE\_PDS2\_ACTIVATION parameter is set to Y, persistent data store V2 will be used; otherwise, this parameter is ignored.

**N**

If global switch RTE\_PDS2\_ACTIVATION parameter is set to Y, you can switch off the persistent data store V2 feature for a specific agent by setting this parameter value to N. In this case, persistent data store V1 will be used.

### Default value

Y

### Permissible values

Y, N

### Related parameters

RTE\_PDS2\_ACTIVATION

KDS\_PDS2\_ACTIVATION

## Kpp\_PDS2\_FILE\_COUNT

Number of data sets for each product

### Description

This value specifies the default number of data sets that will be allocated for the persistent data store V2 for each product.

### Default value

6

**Minimum**

2

**Maximum**

36

## **Kpp\_PDS2\_SEC\_SIZE**

Data store secondary space allocation

**Description**

The number of secondary cylinders or megabytes that will be used to allocate the persistent data store V2 data sets. This value represents the number of cylinders or megabytes allocated for each data set. The allocation unit for PDS V2 is specified in parameter RTE\_PDS2\_ALLOC\_TYPE.

**blank**

The number of secondary cylinders or megabytes will be automatically calculated by an agent. The agent will use 10% of the Kpp\_PDS2\_STORE\_SIZE parameter value divided by the number of files set in Kpp\_PDS2\_FILE\_COUNT.

**0**

Only the primary allocation size will be used.

**value**

Number of secondary cylinders or megabytes that will be used for each persistent data store V2 data set as a secondary allocation size.

**Default value**

None

**Minimum**

0

**Maximum**

9999

**Related parameters**

RTE\_PDS2\_ALLOC\_TYPE

## **Kpp\_PDS2\_STORE\_SIZE**

Data store primary space allocation

**Description**

The number of primary cylinders or megabytes that will be used to allocate the persistent data store V2 data sets. To calculate the primary cylinders or megabytes for a single data set, the Kpp\_PDS2\_STORE\_SIZE value is divided by the Kpp\_PDS2\_FILE\_COUNT value. The allocation unit for PDS V2 is specified in parameter RTE\_PDS2\_ALLOC\_TYPE.

**Default value**

agent specific

**Minimum**

1

**Maximum**

9999

**Related parameters**

RTE\_PDS2\_ALLOC\_TYPE

## Kpp\_PDS2\_VOLUME

Volume for PDS V2 data set allocation for the agent

### Description

This parameter specifies the volume serial number for persistent data store V2 (PDS V2) data set allocation for the specific agent.

### Default value

%RTE\_PDS2\_VOLUME%

### Permissible values

Character string, maximum length 6

## Kpp\_TEMS\_BKUP1\_NAME\_NODEID

This parameter specifies the backup monitoring server values for configuring an agent for your site.

### Description

Server that the monitoring agent will connect to if the primary Tivoli® Enterprise Monitoring Server (monitoring server) fails.

This parameter specifies backup monitoring server values for configuring an agent for your site. This name must match the name of a non-z/OS monitoring server or the CMS\_NODEID parameter value for a z/OS® TEMS. If the parameter value contains the SMFID, you must enter the z/OS® system's SMFID in place of this literal.

**Note:** The value of this field is case-sensitive for both z/OS® and non-z/OS monitoring server names.

### Default value

No default

### Permissible values

A string of up to 32 case-sensitive characters

### Related parameters

None

## Kpp\_TEMS\_BKUP1\_TCP\_HOST

This parameter specifies the TCP/IP host name or IP address for the non-z/OS backup hub TEMS that this monitoring agent connects to if the primary hub TEMS is unavailable.

### Description

This parameter is used for configuring this agent to participate in a *hot standby* configuration with a non-z/OS (distributed) hub TEMS that has been enabled for Fault Tolerant Option (FTO). Specify the TCP/IP host name or IP address where the non-z/OS backup (standby) hub TEMS is running.

This parameter is required if you plan to have this monitoring agent communicate with the non-z/OS backup hub TEMS using TCP/IP. An IP-related protocol must be enabled.

### Default value

None

### Permissible values

Character string, maximum length 32

### Related parameters

None

## Kpp\_TEMS\_BKUP1\_VTAM\_APPL\_LLB\_BKR

### Required or optional

Optional. This is a required field if this monitoring agent needs to communicate with the backup server using VTAM® protocol.

### Location where the parameter value is stored

In the *KPPENV* member in the *rhilev.midlev.rtename.RKANPARU* library if you use SNA to communicate with the backup Tivoli® Enterprise Monitoring Server

#### Parameter name

N/A

#### Default value

No default

#### Permissible values

A string of up to 8 characters

### PARMGEN name

*KPP\_TEMS\_BKUP1\_VTAM\_APPL\_LLB\_BKR*

### PARMGEN classification

Secondary TEMS VTAM® information

### Description

Backup Server Location Broker applid

This parameter identifies the Local Location Broker that is to be used for VTAM®-type communication to the backup server. Enter the Local Location Broker applid of the secondary Tivoli® Enterprise Monitoring Server that this agent communicates with. This is a required field if this agent needs to communicate with the backup server using SNA protocol. This field is not required if you use TCP/IP for communication with the backup monitoring server.

### Related parameters

None

## Kpp\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD

Use the *KPP\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD* parameter to specify the name of the LU6.2 LOGMODE that was defined for the backup server.

### Required or optional

Optional. This is a required field if you plan to have the backup server communicate with monitoring agents using VTAM®.

### Location where the parameter value is stored

In the *KPPENV* member in the *rhilev.midlev.rtename.RKANPARU* library if you use SNA to communicate with the backup Tivoli® Enterprise Monitoring Server

#### Parameter name

N/A

#### Default value

CANCTDCS

#### Permissible values

A string of up to 8 characters

### PARMGEN name

*KPP\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD*

### PARMGEN classification

Secondary TEMS VTAM® information

### Description

Agent backup Server LU6.2 logmode

This parameter specifies the name of the LU6.2 LOGMODE that was defined for the backup server. The default is CANCTDCS. This is a required field if you plan to have the backup server communicate with agents using SNA. This field is not needed if you use TCP/IP for communication with the backup monitoring server.

### Related parameters

None

## Kpp\_TEMS\_BKUP1\_VTAM\_NETID

Use the `KPP_TEMS_BKUP1_VTAM_NETID` parameter to identify your SNA network.

### Required or optional

Optional. This is a required field if you plan to have the backup server communicate with monitoring agents using VTAM®.

### Location where the parameter value is stored

In the `PPENV` member in the `rhilev.midlev.rtename.RKANPARU` library if you use SNA to communicate with the backup Tivoli® Enterprise Monitoring Server

#### Parameter name

N/A

#### Default value

No default

#### Permissible values

A string of up to 8 characters

### PARMGEN name

`KPP_TEMS_BKUP1_VTAM_NETID`

### PARMGEN classification

Secondary TEMS VTAM® information

### Description

Agent backup Sever Network ID

This parameter identifies your SNA network. You can locate this value on the NETID parameter within the VTAMLST startup member, `ATCSTRnn`. This is a required field if you plan to have the backup server communicate with monitoring agents using SNA. This field is not needed if you use TCP/IP for communication with the backup monitoring server.

### Related parameters

None

## Kpp\_TEMS\_LOCAL\_CONNECT\_FLAG

Use the `KPP_TEMS_LOCAL_CONNECT_FLAG` parameter to specify values that describe the primary TEMS the agent will connect to.

**Note:** Specify the `Kpp_TEMS_TCP_*` or `Kpp_TEMS_VTAM_*` parameter values for the primary TEMS that the agent will connect to.

### Required or optional

Optional

### Location where the parameter value is stored

The parameter value is not stored, but is used for internal processing.

**Parameter name**

AGLOCCN (Connect agent to local TEMS)

**Default value**

Y

**Permissible values**

Y, N

**PARMGEN name**

KPP\_TEMS\_LOCAL\_CONNECT\_FLAG

**PARMGEN classification**

Values that describe the Primary TEMS the Agent will connect to

**Description**

Connect agent to local TEMS

This parameter specifies how you want to connect the agent you are defining. When defining an agent, you have the option to connect the agent to a local server or a remote server. When connecting to a local server you are connecting the agent to the server in this runtime environment.

Specify **Y** to connect the agent to the server in this RTE. Otherwise, specify **N** to have the agent connect to a remote server.

**Related PARMGEN CONFIG profile parameter****Kpp\_TEMS\_BKUP1\_\***

Agent's backup TEMS parameter values

The agent's primary and backup TEMS parameter values are used in the CT\_CMSLIST parameter in the agent's xKANPARU(KppENV) member.

**Kpp\_TEMS\_NAME\_NODEID**

This parameter defines the primary Tivoli® Enterprise Monitoring Server values for configuring an agent for your site.

**Description**

Primary monitoring server that this monitoring agent connects to.

This parameter specifies the primary Tivoli® Enterprise Monitoring Server values for configuring an agent for your site. This name must match the name of a non-z/OS monitoring server, or the CMS\_NODEID parameter value, in the KDSENV member of the *rhilev.midlev.rtename*.RKANPARU library for a z/OS® TEMS. If the parameter value contains the SMFID, you must enter the z/OS® system's SMFID in place of this literal.

**Note:** The value of this field is case-sensitive for both z/OS® and non-z/OS monitoring server names.

**Default value**

No default

**Permissible values**

A string of up to 8 case-sensitive characters defining the nodeid of the server to which you are connecting the agent

**Related parameters**

None

**Kpp\_TEMS\_TCP\_HOST**

Use this parameter to specify the agent's primary Tivoli Enterprise Monitoring Server TCP/IP information.

**Description**

This parameter specifies the server hostname or IP address.

**Note:** To modify this parameter value using Configuration Manager, use parameter “[RTE\\_TCP\\_HOST](#)” on [page 288](#), which sets the same value for the monitoring server and the monitoring agents.

If the primary Tivoli Enterprise Monitoring Server is on z/OS, to obtain the hostname or IP address, enter **TSO HOMETEST** at the command line. If the z/OS domain name resolver configuration specifies a search path that includes the target domain suffix, specify only the first qualifier of the hostname. (Example: sys is the first qualifier of the fully-qualified hostname sys.ibm.com) Otherwise, specify the fully-qualified hostname.

This parameter is required for this server to communicate with agents using TCP/IP.

#### Default value

##### For Configuration Manager:

Value set for parameter “[RTE\\_TCP\\_HOST](#)” on [page 288](#), which defaults to %SYSIPHOSTNAME%

##### For PARMGEN:

%SYSIPHOSTNAME%

#### Permissible values

Character string, maximum length 39

#### Related parameters

- “[RTE\\_TCP\\_HOST](#)” on [page 288](#)
- “[KDS\\_TEMS\\_TCP\\_HOST](#)” on [page 1412](#)
- “[Kpp\\_TEMS\\_LOCAL\\_CONNECT\\_FLAG](#)” on [page 1292](#)

## Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM

This parameter specifies the port number that you want to use for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4).

#### Description

Agent IP.PIPE port number

This parameter specifies the IP.PIPE port number that you want to use. This port number is used by the non-secure Network Computing System (NCS) IP.PIPE protocol.

**Note:** Port numbers for non-secure IP.PIPE protocol and IP.UDP protocol must match.

This parameter is required if you specified a value of IPPPIPE as one of the “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#) protocol parameters.

#### Default value

The value set in [RTE\\_TCP\\_PORT\\_NUM](#). If no value is provided in [RTE\\_TCP\\_PORT\\_NUM](#), 1918 is used.

#### Permissible values

1 - 65535

#### Related parameters

- “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#)
- [RTE\\_TCP\\_PORT\\_NUM](#)

## Kpp\_TEMS\_TCP\_PIPE6\_PORT\_NUM

This parameter specifies the port number that you want to use for the IP6.PIPE communication protocol (the TCP/IP protocol that supports IPv6).

### Description

Agent IP6.PIPE port number

This parameter specifies the IP6.PIPE port number that you want to use. This port number is used by the non-secure Network Computing System (NCS) IP.PIPE protocol.

**Note:** Port numbers for non-secure IP6.PIPE and IP.UDP protocols must match.

This parameter is required if you specified a value of IP6PIPE in one of the [“Kpp\\_AGT\\_COMM\\_PROTOCOLn” on page 1264](#) protocol parameters.

### Default value

The value set in [Kpp\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM](#). If no value is provided in [Kpp\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM](#), 1918 is used.

### Permissible values

1 - 65535

### Related parameters

- [“Kpp\\_AGT\\_COMM\\_PROTOCOLn” on page 1264](#)
- [Kpp\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM](#)

## Kpp\_TEMS\_TCP\_PIPE6S\_PORT\_NUM

This parameter specifies the port number that you want to use for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6).

### Description

Agent IP6.SPIPE port number

This parameter specifies the IP6.SPIPE port number that you want to use. This port number is used by the secure Network Computing System (NCS) IP.PIPE protocol.

**Note:** Port numbers for non-secure IP.PIPE and IP.UDP protocols must match.

This parameter is required if you specified a value of IP6SPIPE in one of the [“Kpp\\_AGT\\_COMM\\_PROTOCOLn” on page 1264](#) protocol parameters.

### Default value

3660

### Permissible values

1 - 65535

### Related parameters

- [“Kpp\\_AGT\\_COMM\\_PROTOCOLn” on page 1264](#)

## Kpp\_TEMS\_TCP\_PIPE4\_PORT\_NUM

This parameter specifies the port number that you want to use for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv4).

### Description

Agent IP.SPIPE port number

This parameter specifies the IP.SPIPE port number that you want to use. This port number is used by the secure Network Computing System (NCS) IP.PIPE protocol.

**Note:** Port numbers for non-secure IP.SPIPE protocols must match.

This parameter is required if you specified a value of IP.SPIPE in one of the “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#) protocol parameters.

**Default value**

3660

**Permissible values**

1 - 65535

**Related parameters**

- “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#)

## Kpp\_TEMS\_TCP\_UDP\_PORT\_NUM

This parameter specifies the port number that you want to use for the IP.UDP communication protocol (the TCP/IP protocol that uses the packet-based, connectionless User Datagram Protocol under IPv4).

**Description**

Agent IP.UDP port number

This parameter specifies the IP.UDP port number that you want to use. This port number is used by the non-secure Network Computing System (NCS) IP (UDP) protocol.

**Note:** Port numbers for non-secure IP.PIPE protocol and IP.UDP protocol must match.

This parameter is required if you specified a value of IP in one of the “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#) protocol parameters.

**Default value**

1918

**Permissible values**

1 - 65535

**Related parameters**

- “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#)

## Kpp\_TEMS\_TCP\_UDP6\_PORT\_NUM

This parameter specifies the port number that you want to use for the IP6.UDP communication protocol (the packet-based, connectionless User Datagram Protocol that supports IPv6).

**Description**

Agent IP6.UDP port number for IPv6

This parameter specifies the IP6.UDP port number that you want to use. This port number is used by the non-secure Network Computing System (NCS) IP (UDP) protocol.

**Note:** Port numbers for non-secure IP.PIPE protocols must match.

This parameter is required if you specified a value of IP6 in one of the “[Kpp\\_AGT\\_COMM\\_PROTOCOLn](#)” on [page 1264](#) protocol parameters.

**Default value**

The value set in [Kpp\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM](#). If no value is provided in [Kpp\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM](#), 1918 is used.

**Permissible values**

1 - 65535

**Related parameters**

- [“Kpp\\_AGT\\_COMM\\_PROTOCOLn” on page 1264](#)

## **Kpp\_TEMS\_VTAM\_APPL\_LL\_BROKER**

Use the [KPP\\_TEMS\\_VTAM\\_APPL\\_LL\\_BROKER](#) parameter to identify which Local Location Broker is to be used for VTAM®-type communication.

**Description**

Local Location Broker *applid*

This parameter identifies which Local Location Broker is to be used for VTAM®-type communication.

This is a required field if you use SNA to communicate with the Tivoli® Enterprise Monitoring Server.

**Required or optional**

Required if you use SNA to communicate with the Tivoli® Enterprise Monitoring Server

**Default value**

CTDDSLB

**Permissible values**

A string of up to 8 characters

**Related parameters**

None

## **Kpp\_TEMS\_VTAM\_LU62\_DLOGMOD**

Use the [KPP\\_TEMS\\_VTAM\\_LU62\\_DLOGMOD](#) parameter to specify the name of the LU6.2 LOGMODE that was defined for the server.

**Description**

LU6.2 LOGMODE

This parameter specifies the name of the LU6.2 LOGMODE that was defined for the server. This is a required field if you plan to have the server communicate with agents using VTAM®. The IBM® default is **CANCTDCS**.

**Required or optional**

Required if you use SNA to communicate with the Tivoli® Enterprise Monitoring Server

**Default value**

CANCTDCS

**Permissible values**

Character string, maximum length 8

**Related parameters**

None

## Kpp\_TEMS\_VTAM\_LU62\_MODETAB

Use the `KPP_TEMS_VTAM_LU62_MODETAB` parameter to specify the name of the LOGMODE table containing the LU6.2 LOGMODE definition.

### Required or optional

Required if you use SNA to communicate with the Tivoli® Enterprise Monitoring Server

### Location where the parameter value is stored

The CTDPN member of the *rhilev.midlev.rtename.RKANSAMU* library

### Parameter name and syntax

```
CT_CMSLIST=%KPP_TEMS_VTAM_LU62_MODETAB
```

### Default value

KDSMTAB1

### Permissible values

Character string, maximum length 8

### PARMGEN name

`KPP_TEMS_VTAM_LU62_MODETAB`

### PARMGEN classification

Agent's Primary TEMS VTAM® information

### Description

LOGMODE table name

This parameter specifies the name of the LOGMODE table containing the LU6.2 LOGMODE definition. This is a required field if you plan to have the server communicate with agents using SNA.

### Related parameters

None

## Kpp\_TEMS\_VTAM\_NETID

Use the `KPP_TEMS_VTAM_NETID` parameter to specify the identifier of your VTAM® network.

### Required or optional

Required if you use SNA to communicate with the Tivoli® Enterprise Monitoring Server

### Location where the parameter value is stored

The KPPENV member of the *rhilev.midlev.rtename.RKANPARU* library

### Parameter name and syntax

```
CT_CMSLIST=%KPP_TEMS_VTAM_NETID
```

### Default value

Value set for the RTE\_VTAM\_NETID or RTE\_SYSV\_VTAM\_NETID parameter

### Permissible values

Character string, maximum length 8

### PARMGEN name

`KPP_TEMS_VTAM_NETID`

### PARMGEN classification

Agent's Primary TEMS VTAM® information

### Description

Network ID

This parameter specifies the identifier of your VTAM® network. You can locate this value on the NETID parameter within the VTAMLST startup member (ATCSTRnn). This is a required field if you plan to have this server communicate to agents using VTAM®.

### Related parameters

None

## Kpp\_X\_AGT\_CONFIRM\_SHUTDOWN

Use this parameter to specify the maximum number of seconds between two successive SHUTDOWN commands or MVS STOP (P) commands to terminate the monitoring agent address space.

### Required or optional

Required

### Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

#### Parameter name

CONFIRM(&XPPFIRM) (Confirm shutdown option)

#### Default value

0

#### Permissible values

0 to 15

### PARMGEN name

KPP\_X\_AGT\_CONFIRM\_SHUTDOWN

### PARMGEN classification

Additional agent settings

### Description

Confirm shutdown option

This parameter sets the maximum number of seconds between two successive SHUTDOWN commands or MVS STOP (P) commands to terminate the monitoring agent address space.

**CONFIRM(0)** allows TMS:Engine shutdown to begin immediately without an additional, confirming SHUTDOWN command.

**CONFIRM(n)** prevents accidental shutdowns by requiring you to confirm the command by entering it a second time within the specified number of seconds.

For example, CONFIRM(15) requires you enter SHUTDOWN twice within 15 seconds to terminate the address space.

The default for the monitoring agent CONFIRM is 0, which is also the Tivoli® Enterprise Monitoring Server default.

### Related parameters

None

## Kpp\_X\_AGT\_DEBUG\_TRACE

Use this parameter to specify whether TMS:Engine debugging services are to be activated.

### Required or optional

Optional

### Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

#### Parameter name

DEBUG(&XPPDEBG) (TMS:Engine Debugging Services)

#### Default value

N

**Permissible values**

Y, N

**PARMGEN name**

KPP\_X\_AGT\_DEBUG\_TRACE

**PARMGEN classification**

Additional agent settings

**Description**

TMS:Engine Debugging Services

**Attention:** Do not modify this parameter except under the guidance of IBM® Software Support.

This parameter specifies whether TMS:Engine debugging services are to be activated.

**N** means that basic debugging information will not be recorded.

**Y** means that basic debugging information will be recorded.

DEBUG and STGDEBUG may affect each other. If DEBUG(Y) is specified and STGDEBUG is omitted, basic storage debugging is turned on, causing an increase in storage use.

STGDEBUG must also be specified after DEBUG in the initialization deck for proper functioning of these turned on, causing an increase in storage use. DEBUG will override STGDEBUG if it follows STGDEBUG.

The default for the monitoring agent DEBUG is **N**.

**Related parameters**

None

**Kpp\_X\_AGT\_KDC\_DEBUG**

Use this parameter to instruct the data communications layer to report communications problems using a minimal, summary format.

**Required or optional**

Optional

**Location where parameter value is stored**

In the KPPENV member in the *rhilev.midlev.rtename*.RKANPARU library

**Parameter name**

KBS\_DEBUG=(&amp;XPPDEBUG) (TCP/IP communication trace debug)

**Default value**

N

**Permissible values**

Y, N, D, M, A

**PARMGEN name**

KPP\_X\_AGT\_KDC\_DEBUG

**PARMGEN classification**

Additional agent settings

**Description**

TCP/IP communication trace debug

**Attention:** Do not modify this parameter except under the guidance of IBM® Software Support.

## TCP/IP communication trace debug

Set this parameter to **Y** if you want KDC\_DEBUG=Y as the override setting in RKANPARU(KPPENV) member. Otherwise, the default setting of KDC\_DEBUG=N is used. This default parameter instructs the data communications layer to report communications problems using a minimal, summary format. This parameter is intended for stable applications in production.

Note that the default KDC\_DEBUG=N generates standard RAS1 trace data in the Agent RKLVLLOG, in addition to the summary information diagnosing possible timeout conditions.

The following settings report on data communications problems:

- KDC\_DEBUG=N: minimal tracing (default)
- KDC\_DEBUG=Y: full-packet tracing
- KDC\_DEBUG=D: KDC\_DEBUG=Y plus STATE & FLOW tracing
- KDC\_DEBUG=M: KDC\_DEBUG=D plus INPUT & OUTPUT HELPs tracing
- KDC\_DEBUG=A: KDC\_DEBUG=M plus all format tracing

**Note:** Do not set KDC\_DEBUG=A unless directed to by IBM® Software Support. Higher trace levels increase the size of RKLVLLOG and could eventually fill the JES spool over time.

## Related parameters

None

## Kpp\_X\_AGT\_LGSA\_VERIFY

Use this parameter to specify whether TMS:Engine checks that the \$GSA address is available.

## Required or optional

Required

## Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPAU library

## Parameter name

LGSA(&XPPLGSA) (Verify \$GSA address availability)

## Default value

Y

## Permissible values

Y, N

## PARMGEN name

KPP\_X\_AGT\_LGSA\_VERIFY

## PARMGEN classification

Additional agent settings

## Description

Verify \$GSA address availability

**Attention:** Do not modify this parameter except under the guidance of IBM® Software Support.

This parameter determines whether TMS:Engine checks that the \$GSA address is available. Y, N are the only options.

**Y** means you want to check if available.

**N** means you do not want to check if available.

The default for the monitoring agent LGSA is Y, which is also the Tivoli® Enterprise Monitoring Server default value.

#### Related parameters

None

## Kpp\_X\_AGT\_LSRPOOL\_BUFFER\_NUM

Use this parameter to specify the number of virtual storage buffers to be allocated for the specified buffer pool in the VSAM resource pool.

#### Required or optional

Required

#### Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

#### Parameter name

LSRPOOL(*&XPPBNUM, number*) (Number of buffers)

#### Default value

32

#### Permissible values

3 - 65535 (to the maximum amount of available virtual storage in the monitoring agent address space)

#### PARMGEN name

KPP\_X\_AGT\_LSRPOOL\_BUFFER\_NUM

#### PARMGEN classification

Additional agent settings

#### Description

Number of buffers

This parameter specifies the number of virtual storage buffers to be allocated for buffer pool "n" in the VSAM resource pool. You must specify a size for each buffer pool individually. You cannot string the definitions because they must be specified individually.

Permissible values: 3-65535.

This parameter has size of buffers and number of buffer and is specified as LSRPOOL(32768,32).

The default for the monitoring agent LSRPOOL buffer number is 32.

#### Related parameters

None

## Kpp\_X\_AGT\_LSRPOOL\_BUFSIZE

Use this parameter to specify the size in bytes of each virtual storage buffer in the specified buffer pool in the VSAM resource pool.

#### Required or optional

Required

#### Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

#### Parameter name

LSRPOOL(*&XPPBSIZ, number*) (Size of virtual storage buffer in pool)

#### Default value

32768

#### Permissible values

512, 1024, 2048, 8192, 12288, 16384, 20480, 24576, 28672, or 32768

**PARMGEN name**

KPP\_X\_AGT\_LSRPOOL\_BUFSIZE

**PARMGEN classification**

Additional agent settings

**Description**

Size of virtual storage buffer in pool

This parameter specifies the size in bytes of each virtual storage buffer in buffer pool "n" in the VSAM resource pool. You must specify a size for each buffer pool individually. You cannot string the definitions because they must be specified individually.

Permissible values are one of the following: 512, 1024, 2048, 8192, 12288, 16384, 20480, 24576, 28672, or 32768.

This parameter has size of buffers and number of buffer and specified as LSRPOOL(32768,32).

The default for the monitoring agent LSRPOOL buffer size is 32768.

**Related parameters**

None

## Kpp\_X\_AGT\_SDUMP\_SVC\_SYS1\_DUMP

Use this parameter to specify whether SVC dumps are generated.

**Required or optional**

Required

**Location where parameter value is stored**

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

**Parameter name**

SDUMP(&XPPDSVC) (Generate SVC dump)

**Default value**

Y

**Permissible values**

Y, N, S, M

**PARMGEN name**

KPP\_X\_AGT\_SDUMP\_SVC\_SYS1\_DUMP

**PARMGEN classification**

Additional agent settings

**Description**

Generate SVC dump

This parameter determines whether SVC dumps are generated.

**Y** directs the SVC dump to a system dump data set (SYS1.DUMPxx). Before you specify Y as the value of this parameter, ensure that the TMS:Engine job step is APF-authorized and that the SYS1.DUMPxx data sets are large enough to hold the contents of the TMS:Engine address space.

**N** directs formatted dumps to the RKLVSnap data set. Avoid formatted dumps if possible because they disable the TMS:Engine address space for a longer time than either SVC dumps or SYSDUMPs, and are more difficult to analyze.

**S** directs summary dumps to the RKLVSnap data set. A summary dump consists of an ABEND summary and dispatcher summary and does not provide enough information for reliable problem analysis. Use this setting for specific testing purposes only.

**M** directs ABEND dumps to the data set with the SYSMDUMP DD name. This type of dump is not formatted by the operating system and must be analyzed with IPCS. Only the first dump taken is captured in the SYSMDUMP data set unless JCL specifies DISP=MOD. TMS:Engine automatically initializes the SYSMDUMP data set with an end-of-file mark.

The default for the monitoring agent SDUMP is **Y**.

#### Related parameters

None

## **Kpp\_X\_AGT\_STORAGE\_LIMIT\_EXTEND**

This parameter specifies the maximum size for TMS:Engine primary storage (above-the-line) requests.

#### Required or optional

Required

#### Location where parameter value is stored

In the KPPSYSIN data set of the *rhilev.midlev.rtename*.RKANPARU library

##### Parameter name

LIMIT(&XPPELIM,X)

##### Default value

Varies by product

##### Permissible values

A power of 2 between 16 and 30.

#### PARMGEN name

KPP\_X\_AGT\_STORAGE\_LIMIT\_EXTEND

#### PARMGEN classification

Additional agent settings

#### Description

Extended maximum storage request

This parameter specifies the maximum size for the TMS:Engine primary storage (above-the-line) request. The maximum extended storage request size is specified as a power of 2. The minimum extended storage size is 16, which specifies a limit of 64K. The maximum is 25, which specifies a limit of 32 MB.

The default for the monitoring agent extended storage is 22, which specifies a limit of 4 MB.

#### Related parameters

None

## **Kpp\_X\_AGT\_STORAGE\_LIMIT\_PRIMARY**

Use this parameter to specify the maximum size for the TMS:Engine primary storage request.

#### Required or optional

Required

#### Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

##### Parameter name

LIMIT(&XPPPLIM,P) (Primary maximum storage request)

##### Default value

Differs by product

##### Permissible values

A power of two between 16 and 30

**PARMGEN name**

KPP\_X\_AGT\_STORAGE\_LIMIT\_PRIMARY

**PARMGEN classification**

Additional agent settings

**Description**

Primary maximum storage request

This parameter specifies the maximum size for the TMS:Engine primary storage request. The maximum primary storage request size is specified as a power of 2. The minimum primary storage size is 16, which specifies a limit of 64K. The maximum is 25, which specifies a limit of 32 MB

The default for the monitoring agent primary storage is **20**, which specifies a limit of 1 MB.

**Related parameters**

None

**Kpp\_X\_AGT\_STORAGE\_RESERVE\_EXT**

Use this parameter to specify the number of kilobytes of extended (above-the-line) storage to set aside for other routines that might perform their own GETMAINS in this address space.

**Required or optional**

Required

**Location where parameter value is stored**

In the KPPSYSIN member of the *rhilev.midlev.rtename.RKANPARU* library

**Parameter name**

RESERVE(&XAGERES, X) (Extended 31-bit region reserve)

**Default value**

2048

**Permissible values**

0 to 9999

**PARMGEN name**

KPP\_X\_AGT\_STORAGE\_RESERVE\_EXT

**PARMGEN classification**

Additional agent settings

**Description**

Extended 31-bit region reserve

This parameter specifies the number of kilobytes of extended (above-the-line) storage to set aside for other routines that might perform their own GETMAINS in this address space. If your RESERVE value is too small, you might encounter IST566I messages from VTAM® or S80A, S878, S066, S40D, or S0F9 abends.

The default for the monitoring agent primary storage reserve is **2048** KB.

**Related parameters**

None

**Kpp\_X\_AGT\_STORAGE\_RESERVE\_PRI**

Use this parameter to specify the number of KB of primary (below-the-line) storage to set aside for other routines (for example, ACF2 and RACF®) that might perform their own GETMAINS in this address space.

**Required or optional**

Required

**Location where parameter value is stored**

In the *KPPSYSIN* member of the *rhilev.midlev.rtename.RKANPARU* library

**Parameter name**

RESERVE(&XPPPRES,P) (Primary 24-bit region reserve)

**Default value**

2048

**Permissible values**

0 to 9999

**PARMGEN name**

KPP\_X\_AGT\_STORAGE\_RESERVE\_PRI

**PARMGEN classification**

Additional agent settings

**Description**

Primary 24-bit region reserve

This parameter specifies the number of KB of primary (below-the-line) storage to set aside for other routines (for example, ACF2 and RACF®) that might perform their own GETMAINS in this address space. ACF2 and RACF® use approximately 1 KB of primary storage per logged-on user. If your RESERVE value is too small, you might encounter IST566I messages from VTAM® or S80A, S878, S066, S40D, or S0F9 abends.

The default for the monitoring agent primary storage reserve is **2048** KB.

**Related parameters**

None

## **Kpp\_X\_AGT\_STORAGE\_STGDEBUG**

Use this parameter to specify whether TMS:Engine storage debugging services are to be activated.

**Required or optional**

Optional

**Location where parameter value is stored**

The *KPPSYSIN* member of the *rhilev.midlev.rtename.RKANPARU* library

**Parameter name**

STGDEBUG(&XPPSTDB) (Storage Debugging Services)

**Default value**

N

**Permissible values**

Y, N, X

**PARMGEN name**

KPP\_X\_AGT\_STORAGE\_STGDEBUG

**PARMGEN classification**

Additional agent settings

**Description**

Storage Debugging Services

This parameter specifies whether TMS:Engine storage debugging services are to be activated.

**N** means that storage debugging information will not be recorded.

**Y** means that basic storage debugging information will be recorded.

**X** means that extended storage debugging information will be recorded.

DEBUG and STGDEBUG can affect each other. If DEBUG(Y) is specified and STGDEBUG is omitted, basic storage debugging is turned on, causing an increase in storage use.

STGDEBUG must also be specified after DEBUG in the initialization deck for proper functioning of these turned on, causing an increase in storage use. DEBUG will override STGDEBUG if it follows STGDEBUG.

The default for the monitoring agent STGDEBUG is **N**. This parameter is usually omitted from the KPPSYSIN member.

#### Related parameters

None

## Kpp\_X\_AGT\_TASKS\_ATTACHED\_NUM

Use this parameter to specify the number of general-purpose subtasks to be attached in the TMS:Engine address space.

#### Required or optional

Required

#### Location where parameter value is stored

In the KPPSYSIN member of the *rhilev.midlev.rtename*.RKANPARU library

#### Parameter name

TASKS(&XPPTASK) (Default number of available processors)

#### Default value

1

#### Permissible values

Do not modify this parameter except under the guidance of IBM® Software Support.

#### PARMGEN name

KPP\_X\_AGT\_TASKS\_ATTACHED\_NUM

#### PARMGEN classification

Additional agent settings

#### Description

Default number of available processors

**Attention:** Do not modify this parameter except under the guidance of IBM® Software Support.

This parameter specifies the number of general-purpose subtasks to be attached in the TMS:Engine address space. If TMS:Engine is running on a multiprocessor, the TASKS default increases both throughput and CPU usage. Reducing the number of tasks decreases both throughput and CPU usage.

The default for the monitoring agent TASKS is **1**.

#### Related parameters

None

## Kpp\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID

Use this parameter to identify the SNA.PIPE protocol for communications with the secondary hub Tivoli Enterprise Monitoring Server.

#### Required or optional

Required, if you plan to have the backup server communicate with monitoring agents using VTAM®.

#### Location where the parameter value is stored

In the KPPENV member in the *rhilev.midlev.rtename*.RKANPARU library if you use SNA to communicate with the backup Tivoli® Enterprise Monitoring Server.

**Batch parameter name**

KPP\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID

**Related parameters**

None

**Kpp\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBK**

Use this parameter to identify the global hub backup server location broker APPLID.

Enter the Global Location Broker APPLID of the hub Tivoli® Enterprise Monitoring Server that this agent uses for communication. This is a required field, if this agent needs to communicate with the backup server using SNA protocol. This field is not required, if you use TCP/IP for communication with the backup monitoring server.

**Required or optional**

Required if this monitoring agent needs to communicate with the backup server using VTAM® protocol.

**Location where the parameter value is stored**

In the KPPENV member in the *rhilev.midlev.rtename.RKANPARU* library if you use SNA to communicate with the backup Tivoli® Enterprise Monitoring Server

**Batch parameter name**

KPP\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBK

**Related parameters**

None

**Kpp\_X\_HUB\_TEMS\_VTAM\_NETID**

Use this parameter to specify the VTAM identifier associated with the hub monitoring server.

**Required or optional**

Required if you use SNA to communicate with the hub Tivoli® Enterprise Monitoring Server.

**Location where the parameter value is stored**

The KPPENV member of the *rhilev.midlev.rtename.RKANPARU* library

**Permissible values**

Character string, maximum length of eight

**Batch parameter name**

KPP\_X\_HUB\_TEMS\_VTAM\_NETID

**Related parameters**

None

**Kpp\_X\_HUB\_VTAM\_APPL\_GLBK**

Use the KPP\_X\_HUB\_VTAM\_APPL\_GLBK parameter to identify the global hub server location broker APPLID.

Enter the Global Location Broker APPLID of the hub Tivoli® Enterprise Monitoring Server that this agent uses for communication. This is a required field, if this agent needs to communicate with the backup server using SNA protocol. This field is not required, if you use TCP/IP for communication with the backup monitoring server.

**Required or optional**

Required if this monitoring agent needs to communicate with the hub monitoring server using the VTAM applid for the global location broker.

**Location where the parameter value is stored**

In the KPPENV member in the *rhilev.midlev.rtename.RKANPARU* library if you use SNA to communicate with the hub Tivoli® Enterprise Monitoring Server.

**Default value**

No default

### Permissible values

A string of up to 8 characters

### Batch parameter name

KPP\_X\_HUB\_VTAM\_APPL\_GLBKBR

### Related parameters

None

## Kpp\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS

This parameter allows you to limit connections to a specific range of port numbers.

### Description

This parameter specifies a range of pool numbers. After the port allocation algorithm assigns a well-known port to each process, all subsequent ports that are allocated for connections between components are opaque ports; that is, any available port can be allocated for a connection. You can limit opaque port allocations to a specific range of ports by using this parameter for Tivoli Enterprise Monitoring Server (TEMS) and monitoring agents. The existing agent prefixes (*pp* variable values) are listed in [“Common agent parameters \(Kpp and KAG\)” on page 1261](#).

You can use the POOL option, as described in [“Using the POOL option to set a range of port numbers” on page 152](#), with this parameter too.

### Permissible values

The POOL option must specify a range of ports no smaller than 2 and no larger than 1024 in the format *nnnn-nnnn*.

#### Example:

POOL:1000-2023 is valid; POOL:1000-2024 is not.

If more than 1024 ports are needed in a pool for a specific protocol, you can specify more than one POOL option, as in POOL:1000-2023 POOL:3000-4023.

### Default value

None

### Related parameters

- [“KDS\\_X\\_KDE\\_TRANSPORT\\_GBL\\_OPTIONS” on page 1423](#)
- [“RTE\\_TEMS\\_TRANSPORT\\_MODE” on page 290](#)

## Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS

This parameter redefines the ports to be used by the HTTP and HTTPS daemons.

### Description

The following special settings are supported:

#### HTTPS:0

This setting eliminates error messages when the HTTPS daemon server is active and failing to obtain or bind to family ip.ssl (ip.ssl.https:3661).

#### HTTP:0, HTTPS:0

These settings disable port allocation and port bind errors for the HTTP (1920) and HTTPS (3661) default ports.

#### HTTP\_SERVER:n

This variable keyword disables HTTP and HTTPS daemon services. Do not specify this for a hub monitoring server or for the portal server.

#### HTTP\_CONSOLE:n

This variable keyword disables the TMS/Service Console facility of the HTTP daemon service.

#### HTTP\_CONSOLE:M

This variable keyword removes the process from the published Tivoli service index; this makes the process inaccessible from the TMS/Service Console.

**Default value**

None

**Related parameters**

- [“KDS\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS” on page 1424](#)
- [“RTE\\_TEMS\\_TRANSPORT\\_MODE” on page 290](#)

## **Kpp\_X\_KDE\_TRANSPORT\_OPTIONS**

This parameter allows you to specify various options for Tivoli Enterprise Monitoring Server (TEMS) and monitoring agents.

**Description**

With this parameter you can specify various options for TEMS and monitoring agents, in addition to HTTP-related and POOL-related options.

For example, you can specify the [SKIP and COUNT options](#) to control the way port numbers are assigned to components.

See [“Kpp\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS” on page 1309](#) for HTTP-related options and [“Kpp\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS” on page 1310](#) for POOL-related options.

**Required or optional**

Optional

**Default value**

None

**Permissible values**

A string of up to 30 characters

**Related parameters**

- [“Kpp\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS” on page 1309](#)
- [“Kpp\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS” on page 1310](#)

## **Kpp\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS**

This parameter allows you to limit connections to a specific range of port numbers.

**Description**

This parameter specifies a range of pool numbers.

After the port allocation algorithm assigns a well-known port to each process, all subsequent ports allocated for connections between components are opaque ports; that is, any available port can be allocated for a connection. You can limit opaque port allocations to a specific range of ports by using this parameter for Tivoli Enterprise Monitoring Server (TEMS) and monitoring agents. The existing agent prefixes (*pp* variable values) are listed in [“Common agent parameters \(Kpp and KAG\)” on page 1261](#).

With this parameter, you can use the POOL option, as described in [“Using the POOL option to set a range of port numbers” on page 152](#).

**Required or optional**

Optional

**Default value**

None

**Permissible values**

The POOL option must specify a range of ports no smaller than 2 and no larger than 1024 in the format *nnnn-nnnn*.

**Example:**

POOL:1000-2023 is valid; POOL:1000-2024 is not.

If more than 1024 ports are needed in a pool for a specific protocol, you can specify more than one POOL option, as in POOL:1000-2023 POOL:3000-4023.

#### Related parameters

- [“KDS\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS” on page 1425](#)

## Kpp\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC

Use the `KPP_X_PD_HISTCOLL_DATA_AGT_STC` parameter to specify historical collection is being performed by the monitoring agent address space.

#### Required or optional

Optional

#### Location where parameter value is stored

This parameter is used for internal processing to enable a flag to be set if persistent datastore configuration is being set for the product. When this flag is set, the `KPPPG`, `KPPAL`, `KPPPCTL`, `KPPPCTL2` and `KPPDEFIN` members are created in `rhilev.midlev.rtename.RKANPARU` library.

#### Parameter name

N/A

#### Default value

Y

#### Permissible values

Y, N

#### PARMGEN name

`KPP_X_PD_HISTCOLL_DATA_AGT_STC`

#### PARMGEN classification

Persistent datastore

#### Description

This parameter indicates whether historical collection is being performed by the monitoring agent address space. **Y** means that this agent address space is collecting historical data. **N** means that the agent address space is not collecting historical data. The default is **N**.

This parameter determines whether historical data collection takes place on the Tivoli® Enterprise Monitoring Server or on the monitoring agents where the monitoring agent is running in the monitoring server address space (which is the recommended configuration for this monitoring agent). The `KPDPG`, `KPDPCTL`, `KPDPCTL2`, and `KPDDEFIN` members of the `rhilev.midlev.rtename.RKANPARU` library are updated with `KPP*`-specific parameters when this flag is set.

#### Related parameters

None

## Kpp\_X\_PD\_HISTCOLL\_DATA\_TEMS\_STC

Use the `KPP_X_PD_HISTCOLL_DATA_TEMS_STC` parameter to specify whether historical collection is being performed by the Tivoli® Enterprise Monitoring Server address space.

#### Required or optional

Optional

#### Location where parameter value is stored

The parameter value is not stored, but is used for internal processing.

#### Parameter name

N/A

#### Default value

N

**Permissible values**

Y, N

**PARMGEN name**

KPP\_X\_PD\_HISTCOLL\_DATA\_TEMS\_STC

**PARMGEN classification**

Persistent datastore

**Description**

This parameter indicates whether historical collection is being performed by the Tivoli® Enterprise Monitoring Server address space. **Y** means that the monitoring server address space is collecting historical data. **N** means that the monitoring server address space is not collecting historical data. The default is **N**.

This parameter defines the started task name for historical data collection when this collection takes place on the Tivoli® Enterprise Monitoring Server and the monitoring agent is running in the monitoring server address space (which is the recommended configuration for this monitoring agent). **Y** means that the monitoring server is collecting historical data. The KPDPG, KP3AL, KPPPCTL, KPDPCTL2, and KPDEFIN members of the *rhilev.midlev.rtename.RKANPARU* library are created when this flag is set.

**Related parameters**

None

## Global (GBL) parameters

The global parameters are explained in this chapter.

### GBL\_DSN\_ACF2\_MACLIBn

This parameter contains the name of an ACF2 macro library.

**Description**

Name of an ACF2 macro library. Parameter **GBL\_DSN\_ACF2\_MACLIB** is required if the value specified for the **RTE\_SECURITY\_USER\_LOGON** parameter is ACF2. To specify an additional ACF2 macro library, use parameter **GBL\_DSN\_ACF2\_MACLIB1**.

**Permissible values**

A valid data set name

**Related parameters**

[“RTE\\_SECURITY\\_USER\\_LOGON” on page 1348](#)

### GBL\_DSN\_CBC\_SCCNOBJ

This parameter contains the name of the XL C Compiler object library

**Required or optional**

Optional

**Default value**

CBC.SCCNOBJ

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CBC\_SCCNOBJ

**Description**

This is the name of the XL C Compiler object library.

**Related parameters**

None

## **GBL\_DSN\_CBC\_SCLBSID**

This parameter contains the name of the XL C/C++ side-deck library.

### **Required or optional**

Optional

### **Default value**

CBC.SCCNOBJ

### **Permissible values**

Character string, maximum length 44.

### **PARMGEN name**

GBL\_DSN\_CBC\_SCLBSID

### **Description**

This is the name of the XL C/C++ side-deck library.

### **Related parameters**

None

## **GBL\_DSN\_CEE\_SCEEBIND**

This parameter contains the location of the LE/370 C XPLINK resident routines.

### **Required or optional**

Optional

### **Default value**

CEE.SCEEBIND

### **Permissible values**

Character string, maximum length 44.

### **PARMGEN name**

GBL\_DSN\_CEE\_SCEEBIND

### **Description**

This is the name of the library containing LE/370 C XPLINK resident routines.

### **Related parameters**

None

## **GBL\_DSN\_CEE\_SCEEBND2**

This parameter contains the location of the LE/370 C XPLINK LP64 library.

### **Required or optional**

Optional

### **Default value**

CEE.SCEEBND2

### **Permissible values**

CEE.SCEEBND2

### **PARMGEN name**

GBL\_DSN\_CEE\_SCEEBND2

### **Description**

This is the name of the LE/370 C XPLINK LP64 library.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEECPP**

This parameter contains the name of the LE/370 C++ class library.

**Required or optional**

Optional

**Default value**

CEE.SCEECPP

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CEE\_SCEECPP

**Description**

This is the name of the LE/370 C++ class library.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEELIB**

This parameter contains the name of the LE/370 C side-deck library.

**Required or optional**

Optional

**Default value**

CEE.SCEELIB

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CEE\_SCEELIB

**Description**

This is the name of the LE/370 C side-deck library.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEELKED**

This parameter contains the name of the LE/370 C link-edit library.

**Required or optional**

Required

**Default value**

CEE.SCEELKED

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CEE\_SCEELKED

**Description**

This is the LE/370 C link-edit library that contains the link-edit stubs for C/C++, PL/I, COBOL, and Fortran languages and Language Environment-provided routines.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEELKEX**

This parameter contains the location of the LE/370 C non-XPLINK long names.

**Required or optional**

Optional

**Default value**

CEE.SCEELKEX

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CEE\_SCEELKEX

**Description**

This is the location of the LE/370 C non-XPLINK long names.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEEMSGP**

This parameter contains the name of the library containing the LE/370 C prelinker messages.

**Required or optional**

Optional

**Default value**

CEE.SCEEMSGP

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CEE\_SCEEMSGP

**Description**

This is the name of the library containing the LE/370 C prelinker messages.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEERUN**

This parameter contains the name of the LE/370 C Runtime Library.

**Required or optional**

Required

**PARMGEN name**

GBL\_DSN\_CEE\_SCEERUN

**Description**

This is the LE/370 C runtime library that contains the routines needed during execution of applications written in C/C++, PL/I, COBOL and Fortran.

**Related parameters**

None

**GBL\_DSN\_CEE\_SCEESPC**

This parameter contains the name of the LE/370 system programmer's C facility.

**Required or optional**

Optional

**Default value**

CEE.SCEESPC

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CEE\_SCEESPC

**Description**

This is the name of the LE/370 system programmer's C facility.

**Related parameters**

None

**GBL\_DSN\_CICS\_CTG\_DLL**

This parameter is the name of the CICS TG Dynamic Link Library.

**Required or optional**

Required

**PARMGEN name**

GBL\_DSN\_CICS\_CTG\_DLL

**Description**

This is the name of the CICS TG Dynamic Link Library.

**Related parameters**

None

**GBL\_DSN\_CICS\_SCTGSID**

This parameter contains the name of the CICS TG side-deck library.

**Required or optional**

Optional

**Default value**

CTG.V8ROM0.SCTGSID

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CICS\_SCTGSID

**Description**

This is the name of the CICS TG side-deck library.

**Related parameters**

None

## **GBL\_DSN\_CICS\_SDFHC370**

This parameter contains the name of the CICS load libraries for C support.

**Required or optional**

Optional

**Default value**

DFH.V4R2M5P.SDFHC370

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CICS\_SDFHC370

**Description**

This is the name of the CICS load libraries for C support.

**Related parameters**

None

## **GBL\_DSN\_CICS\_SDFHLOAD**

This parameter contains the name of the CICS load libraries.

**Required or optional**

Optional

**Default value**

DFH.V4R2M5P.SDFHLOAD

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_CICS\_SDFHLOAD

**Description**

This is the CICS load library, as described by the SDFHLOAD low-level qualifier in the IBM CICS documentation.

**Related parameters**

None

## **GBL\_DSN\_CSF\_SCSFMODE**

This parameter contains the Integrated Cryptographic Service Facility (ICSF) load library that contains the CSNB\* modules used for password encryption.

**Description**

This parameter is valid in both Configuration Manager and PARMGEN if ICSF is installed and configured on the z/OS® system.

**In Configuration Manager:**

This parameter is explicitly added in the GBL\$PARM member that is generated after the **CREATE** or **MIGRATE** action, as it is relevant for several security-related aspects of the product configuration (such as password encryption).

If your installation does not use the ICSF, you can remove or comment out this parameter in your RTEDEF (GBL\$PARM) or RTEDEF (GBL\$*lpar*).

**In PARMGEN:**

By default, this parameter is commented out in the WCONFIG (\$GBL\$USR) member.

**Required or optional**

This parameter is required if any of the following conditions are in effect:

- Password encryption is enabled for any components.
- A SOAP server is enabled on a remote Tivoli® Enterprise Monitoring Server.
- Granular control of command requests is enabled (compatibility mode is *disabled*): the **KDS\_KMS\_SECURITY\_COMPATMD** parameter is set to N.
- zAware feature is enabled for OMEGAMON® on z/OS®.

**Default value**

CSF.SCSFMODE0

**Permissible values**

An MVS™ data set name, maximum length 44

**Related parameters**

- RTE\_SECURITY\_KAES256\_KEY
- KDS\_KMS\_SECURITY\_COMPATMD

## **GBL\_DSN\_DB2\_DSNEXT**

This parameter contains the name of the Db2 exit library.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_DB2\_DSNEXT

**Description**

The name of the data set in which the Db2 exit load modules reside that should be used by the OMEGAMON collector.

**Related parameters**

- “GBL\_DSN\_DB2\_LOADLIB\_Vn” on page 1318
- “GBL\_DSN\_DB2\_RUNLIB\_Vn” on page 1319

## **GBL\_DSN\_DB2\_LOADLIB\_Vn**

This parameter contains the name of the load library for the version of Db2 your site is running.

**Required or optional**

Required

**PARMGEN name**

GBL\_DSN\_DB2\_LOADLIB\_Vn

**Description**

The name of the data set in which the Db2 load modules reside. Specify one Db2 load library for each Db2 subsystem version that you want to monitor.

**Related parameters**

- “GBL\_DSN\_DB2\_DSNEXT” on page 1318

- [“GBL\\_DSN\\_DB2\\_RUNLIB\\_Vn” on page 1319](#)

## **GBL\_DSN\_DB2\_RUNLIB\_Vn**

This parameter contains the name of the run library for the version of Db2 your site is running.

### **Required or optional**

Required

### **PARMGEN name**

GBL\_DSN\_DB2\_RUNLIB\_Vn

### **Description**

The name of the dataset in which the Db2 RUNLIB load modules reside. Specify one Db2 run library for each Db2 subsystem version that you want to monitor. This library should contain the modules DSNTIAD and DSNTIAUL to be used to run in batch. The run library is used to generate GRANT and BIND jobs that prepare the Db2 subsystems for monitoring.

### **Related parameters**

- [“GBL\\_DSN\\_DB2\\_DSNEEXIT” on page 1318](#)
- [“GBL\\_DSN\\_DB2\\_LOADLIB\\_Vn” on page 1318](#)

## **GBL\_DSN\_DB2\_SDSNLOAD**

This parameter contains the name of the Db2 load library.

### **Required or optional**

N/A

### **PARMGEN name**

GBL\_DSN\_DB2\_SDSNLOAD

### **Description**

The name of the data set in which the Db2 load modules reside.

## **GBL\_DSN\_GLOBAL\_SOURCE\_LIB**

This parameter provides a common data set that is allocated to house global parameters from products that support these data members.

### **Description**

This parameter provides a common product source library for global parameters.

### **Default value**

*rte\_hilev.rte\_name*.RKANPARU

### **Permissible values**

Character string, maximum length 44

### **Related parameters**

KI2\_I1nn\_CLASSIC\_STC  
 KI2\_I1nn\_CLASSIC\_GLOBAL  
 KC2\_CCnn\_CLASSIC\_STC  
 KC2\_CLASSIC\_KC2GLB\_SRCLIB

## **GBL\_DSN\_IMS\_RESLIB**

The IMS SDFSRESL library.

### **Description**

The IMS SDFSRESL library contains the CQSREG00 action module required to enable the Common Queue Server (CQS). The CQS and shared queues allow users to take advantage of the Parallel Sysplex® environment.

**Note:** The DISCOVER action of IBM Z® Monitoring Configuration Manager discovers the value of the KI2\_I1nn\_CLASSIC\_IMS\_RESLIB parameter, which also specifies an IMS SDFSRESL library. Depending on how IMS is configured at your site, the same value might be appropriate for GBL\_DSN\_IMS\_RESLIB.

**Required or optional**

Required if the runtime environment configures the IMS monitoring agent.

**Default value**

IMS.SDFSRESL

## **GBL\_DSN\_IMS\_SCEXLINK**

This parameter contains the name of the IMS Connect product load library.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_IMS\_SCEXLINK

**Description**

This specifies the IMS.SCEXLINK library. OMEGAMON for IMS on z/OS uses the IMS Connect Extensions Publisher API. The IMS Connect Extensions product and functional support libraries are required for the OMEGAMON for IMS agent to connect to and collect performance and statistics data from the IMS Connect address space.

**Related parameters**

None

## **GBL\_DSN\_IMS\_SFUNLINK**

This parameter contains the name of the IMS Connect functional load library.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_IMS\_SFUNLINK

**Description**

OMEGAMON for IMS on z/OS uses the IMS Connect Extensions Publisher API. The IMS Connect Extensions product and functional support libraries are required for the OMEGAMON for IMS agent to connect to and collect performance and statistics data from the IMS Connect address space.

**Related parameters**

None

## **GBL\_DSN\_ISP\_SISPLOAD**

This parameter contains the name of the library that contains ISPLINK (SISPLOAD for ISPF Version 4 and higher, or ISPLOAD for ISPF version 3 and below).

**Required or optional**

Optional

**Default value**

ISP.SISPLOAD

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_ISP\_SISPLOAD

**Description**

This gives the name of the ISPF load library.

**Related parameters**

None

## GBL\_DSN\_NETVIEW\_CNMLINK

This parameter contains the name of the IBM Z® NetView CNMLINK load library, required for NetView authorization of Take Action commands.

**Required or optional**

Optional

**Batch parameter name**

KNA\_NETV\_LNKLIB

**PARMGEN name**

GBL\_DSN\_NETVIEW\_CNMLINK

**Default value**

NETVIEW.VnRnMn.CNMLINK

**Description**

Name of the IBM Z® NetView CNMLINK load library, required for NetView authorization of Take Action commands. Contact your NetView system programmer for the CNMLINK link library name, if necessary. The CNMLINK library must be APF-authorized.

**Related parameters**

- [“KDS\\_PPI\\_RECEIVER” on page 1391](#)
- [“KDS\\_PPI\\_SENDER” on page 1391](#)

## GBL\_DSN\_SYS1\_BROADCAST

This parameter contains the name of the TSO broadcast data set name.

**Required or optional**

Optional

**Default value**

SYS1.BROADCAST

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_SYS1\_BROADCAST

**Description**

SEND stores messages in the broadcast data set, and LISTBC retrieves them from the broadcast data set.

## GBL\_DSN\_SYS1\_CSSLIB

This parameter contains the name of the z/OS® UNIX® System Services library.

**Required or optional**

Optional

**Default value**

SYS1.CSSLIB

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_SYS1\_CSSLIB

**Description**

This library contains Assembler Callable Services.

**Related parameters**

None

**GBL\_DSN\_SYS1\_HSMLOGY**

This parameter contains the name of the HSM LOGY dataset.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_SYS1\_HSMLOGY

**Description**

HSM log analysis periodically scans the HSM LOGY data set for new messages.

**Related parameters**

None

**GBL\_DSN\_SYS1\_LINKLIB**

This parameter contains the name of the SYSLIB link library.

**Required or optional**

Optional

**Default value**

SYS1.LINKLIB

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_SYS1\_LINKLIB

**Description**

This is typically the SYS1.LINKLIB library in the OMEGAMON Classic security jobs.

**Related parameters**

None

**GBL\_DSN\_SYS1\_MACLIB**

This parameter contains the name of a system macro library for installed components and products.

**Description**

Name of a system macro library for installed components and products.

**Permissible values**

A valid data set name

**Default value**

SYS1.MACLIB

**Related parameters**

None

**GBL\_DSN\_SYS1\_MODGEN**

This parameter contains the name of the System Macro Library.

**Required or optional**

Optional

**Default value**

SYS1.MODGEN

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_SYS1\_MODGEN

**Description**

This is the name of the system macro library.

**Related parameters**

None

**GBL\_DSN\_SYS1\_PARMLIB**

This parameter contains the name of the system parameter library for installed components and products.

**Required or optional**

Required

**Batch parameter name**

KPP\_ICS\_DATASET

**PARMGEN name**

GBL\_DSN\_SYS1\_PARMLIB

**Default value**

SYS1.PARMLIB

**Description**

Name of the system parameter library for installed components and products.

**Related parameters**

None

**GBL\_DSN\_SYS1\_PROCLIB**

This parameter contains the name of the system procedure library that is to contain the started tasks and procedures.

**Description**

Name of the system procedure library that is to contain the started tasks and procedures. You can specify any system library if you do not want to update your PROCLIB library directly.

**Default value**

SYS1.PROCLIB

**Permissible values**

An MVS data set name

**Related parameters**

None

**GBL\_DSN\_SYS1\_SBLSCLI0**

This parameter contains the name of the system library that contains interactive problem control system (IPCS) CLISTs and REXX execs.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_SYS1\_SBLSCLI0

**Default value**

SYS1.SBLSCLI0

**Description**

Name of the system library that contains interactive problem control system (IPCS) CLISTs and REXX execs.

**Related parameters**

None

**GBL\_DSN\_SYS1\_SBPXEXEC**

This parameter is the z/OS® UNIX® System Services CLIST/EXEC library name.

**Required or optional**

Required

**Location where the parameter value is stored**

N/A

**PARMGEN name**

GBL\_DSN\_SYS1\_SBPXEXEC

**Description**

This is the z/OS UNIX CLIST/EXEC library that contains the oshe11 command to perform the symbolic link. These are described by the SBPXEXEC low-level qualifier in the IBM z/OS® UNIX® System Services documentation.

**Related parameters**

- [“RTE\\_USS\\_RTEDIR” on page 1360](#)
- [“KDS\\_KMS\\_SDA” on page 1378](#)
- [“KDS\\_TEMA\\_SDA” on page 1394](#)
- [“Kpp\\_AGT\\_TEMA\\_SDA” on page 1277](#)
- [“GBL\\_HFS\\_JAVA\\_DIRn” on page 1328](#)

**GBL\_DSN\_SYS1\_SISTMAC1**

This parameter contains the name of the system library that contains the VTAM® macros.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_SYS1\_SISTMAC1

**Description**

Name of the system library that contains the VTAM® macros. The default is SYS1\_SISTMAC1.

**Related parameters**

None

**GBL\_DSN\_SYS1\_VTAMLIB**

This parameter contains the name of the system library that contains the VTAM® logmode tables.

**Description**

Name of the system library that contains the VTAM® logmode tables. You can specify any system library if you do not want to update your VTAMLIB library directly.

**Default value**

SYS1.VTAMLIB

**Permissible values**

An MVS data set name

**Related parameters**

- [“RTE\\_VTAM\\_LU62\\_MODETAB” on page 1363](#)

**GBL\_DSN\_SYS1\_VTAMLST**

This parameter contains the name of the system VTAMLST library.

**Description**

Name of the system VTAMLST library. You can specify any system library if you do not want to update your VTAMLST library directly.

**Default value**

SYS1.VTAMLST

**Permissible values**

An MVS data set name

**Related parameters**

- [“RTE\\_VTAM\\_NETID” on page 1363](#)

**GBL\_DSN\_TCP\_ETC\_SERVICES**

This parameter contains the name of the TCP/IP network services.

**Required or optional**

Optional

**Default value**

TCPIP.ETC.SERVICES

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_TCP\_ETC\_SERVICES

**Description**

TCP/IP network services such as NIS, DNS, and the /etc/hosts file.

**Related parameters**

None

**GBL\_DSN\_TCP\_SEZACMTX**

This parameter contains the name of the TCP/IP load libraries.

**Required or optional**

Optional

**Default value**

EZA.SEZACMTX

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_TCP\_SEZACMTX

**Description**

This is the TCP/IP load library for linking user modules and programs, as described for the SEZACMTX low-level qualifier in the IBM TCP/IP for z/OS documentation. This is a required field if any of the directory services use TCP/IP communications, such as a directory service that has been configured as a directory server.

**Related parameters**

None

**GBL\_DSN\_TCP\_SEZARNT1**

This parameter contains the name of the TCP/IP Reentrant Object Module Library.

**Required or optional**

Optional

**Default value**

EZA.SEZARNT1

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_TCP\_SEZARNT1

**Description**

This is the TCP/IP Reentrant object module library for linking user modules and programs, as described for the SEZARNT1 low-level qualifier in the IBM TCP/IP for MVS documentation. This is a required field if any of the directory services use TCP/IP communications, such as a directory service that has been configured as a directory server.

**Related parameters**

None

**GBL\_DSN\_TCP\_SEZATCP**

This parameter contains the name of the TCP/IP executable libraries.

**Required or optional**

Optional

**Default value**

EZA.SEZATCP

**Permissible values**

Character string, maximum length 44.

**PARMGEN name**

GBL\_DSN\_TCP\_SEZATCP

**Description**

This is the TCP/IP executable load library used for STEPLIB or LINKLIB concatenation, as described for the SEZATCP low-level qualifier in the IBM TCP/IP for MVS documentation. This is a required field if any of the directory services use TCP/IP communications, such as a directory service that has been configured as a directory server.

**Related parameters**

None

**GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA**

This parameter contains the name of the system library to use in obtaining the parameters defined by TCPIP.DATA when no GLOBALTCPIPDATA statement is configured.

**Required or optional**

Optional

**Default value**

TCPIP.SEZAINST(TCPDATA)

**Batch parameter name**

Kpp\_TCP\_DATA

**PARMGEN name**

GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA

**Description**

Name of the system library to use in obtaining the parameters defined by TCPIP.DATA when no GLOBALTCPIPDATA statement is configured. If IP domain name resolution is not fully configured on the z/OS® system, SYSTCPD must be supported by the monitoring server and monitoring agents on z/OS®.

**Related parameters**

None

**GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA\_MFN**

This parameter contains the name of the TCP/IP data file.

**Required or optional**

Required

**PARMGEN name**

GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA\_MFN

**Description**

This specifies the data set name of the library described in the *z/OS Communications Server IP Configuration Reference*, section “Configuration Datasets”, which provides parameters for TCP/IP client programs. Specify this dsname if your site is running z/OS V1R4 or higher.

**Related parameters**

None

**GBL\_DSN\_WMQ\_SCSQANLE**

This parameter contains the name of the IBM MQ language library.

**Required or optional**

Optional

**PARMGEN name**

GBL\_DSN\_WMQ\_SCSQANLE

**Description**

This is the IBM-supplied library that provides national language support.

**Related parameters**

None

## GBL\_DSN\_WMQ\_SCSQAUTH

This parameter contains the name of the IBM MQ authorized load library.

**Required or optional**

Required

**PARMGEN name**

GBL\_DSN\_WMQ\_SCSQAUTH

**Description**

This is the IBM-supplied library that contains the IBM MQ API modules required to execute OMEGAMON for Messaging. The data set name you specify here will be added to the started task JCL.

**Related parameters**

- [“GBL\\_DSN\\_WMQ\\_SCSQANLE” on page 1327](#)
- [“GBL\\_DSN\\_WMQ\\_SCSQLOAD” on page 1328](#)

## GBL\_DSN\_WMQ\_SCSQLOAD

This parameter contains the name of the IBM MQ load library.

**Required or optional**

Required

**PARMGEN name**

GBL\_DSN\_WMQ\_SCSQLOAD

**Description**

This is the IBM MQ load library that contains load modules for non-APF code, user exits, utilities, samples, installation verification programs, and adapter stubs.

**Related parameters**

- [“GBL\\_DSN\\_WMQ\\_SCSQAUTH” on page 1328](#)

## GBL\_HFS\_JAVA\_DIRn

This parameter contains the name of the Java home directory.

**Required or optional**

Required if you are enabling the Self-Describing Agent (SDA) functionality in the z/OS TEMS and Agents.

**Location where the parameter value is stored**

The TEMS\_JAVA\_BINPATH parameter in the RKANDATV data set, member KSDPROF.

**PARMGEN name**

GBL\_HFS\_JAVA\_DIRn

**Description**

The name of the Java home directory. The default is /usr1/pp/java/J7.1. This directory must begin with a "/". This parameter is required if you are enabling the Self-Describing Agent (SDA) functionality in the z/OS

TEMS and Agents. This value becomes part of the TEMS\_JAVA\_BINPATH parameter in the RKANDATV(KSDPROF) member that is created by the WKANSAMU(KCIJPUSP) z/OS® UNIX® System Services preparation job. "/bin" is added to the "GBL\_HFS\_JAVA\_DIRn" Java home directory value automatically.

#### Related parameters

- [“RTE\\_USS\\_RTEDIR” on page 1360](#)
- [“RTE\\_USS\\_MKDIR\\_MODE” on page 1359](#)
- [“KDS\\_KMS\\_SDA” on page 1378](#)
- [“KDS\\_TEMA\\_SDA” on page 1394](#)
- [“Kpp\\_AGT\\_TEMA\\_SDA” on page 1277](#)
- [“GBL\\_DSN\\_SYS1\\_SBPXEXEC” on page 1324](#) (typically in WCONFIG(\$GBL\$USR))

## GBL\_INST\_HILEV

This parameter contains the high-level qualifier (*shilev*) of the installation libraries (INSTJOBS, INSTDATA, and so on).

#### Required or optional

Required

#### PARMGEN name

GBL\_INST\_HILEV

#### Description

High-level qualifier (*shilev*) of the installation libraries (INSTJOBS, INSTDATA, and so on).

#### Related parameters

- [“GBL\\_TARGET\\_HILEV” on page 1330](#)

## GBL\_JOBGEN\_WORKFILE

This PARMGEN-only parameter contains the JOBGEN output library (workfile repository).

#### Description

**Note:** This parameter is valid in PARMGEN only. It is not valid in Configuration Manager.

This parameter is used to integrate the Install Job Generator (JOBGEN) tool with PARMGEN. This parameter contains the JOBGEN output library (workfile repository) specified during the PARMGEN **Set up/Refresh PARMGEN work environment KCIJPCFG** step.

#### Permissible values

A valid data set name

## GBL\_REGION

This parameter contains the global JCL REGION value.

#### Description

The required storage value in kilobytes (K) or in megabytes (M) for applicable batch jobs or started tasks. The jobs contain the REGION= parameter on the EXEC statement. Change this value as required by your installation.

#### Permissible values

Character string (maximum length 8) in format *valueK* or *valueM*. You must specify the K or M suffix (for example: 4096K, 0M).

#### Default value

OM

## GBL\_SYSDA\_UNIT

This parameter contains the SYSDA unit name.

### Description

The device type for temporary data sets that are to be dynamically allocated.

### Permissible values

Character string, maximum length 8

### Default value

SYSDA

## GBL\_TARGET\_HILEV

This parameter contains the high-level qualifier (*thilev*) of the target libraries that were installed by SMP/E (for example, TKANDATV and TKANMOD).

### Required or optional

Required

### PARMGEN name

GBL\_TARGET\_HILEV

### Description

High-level qualifier (*thilev*) of the target libraries that were installed by SMP/E (for example, TKANDATV and TKANMOD).

### Related parameters

- [“GBL\\_INST\\_HILEV” on page 1329](#)

## GBL\_USER\_JCL

This parameter specifies the global user library. For PARMGEN, this library contains common JCL and variable definitions. For Configuration Manager, this library contains global parameters.

### Description

#### For PARMGEN:

Specifies the data set name of the PARMGEN global (common) user JCL library, where the KCIJPCFG PARMGEN configuration job is to be customized.

The specified data set stores definitions for every RTE you might create on the LPAR.

The PARMGEN global user JCL library is also where the PARMGEN process creates the variables configuration profile and stores variables.

#### For Configuration Manager:

Specifies the library for global parameters.

### Required or optional

Required

### Related parameters

None

## GBL\_USS\_TKANJAR\_PATH

The path of the z/OS® UNIX® System Services directory that the SMP/E installation jobs define using the ddname TKANJAR.

Depending on your local site practices, this path might refer to a copy, rather than the original SMP/E-managed directory.

#### Required or optional

Required if the runtime environment configures either of the following monitoring agents:

- CICS® Transaction Gateway (TG). The corresponding configuration parameter is **CONFIGURE\_CICS\_TG\_KGW**.
- Java™ Virtual Machine (JVM). The corresponding configuration parameter is **CONFIGURE\_JVM\_KJJ**.

#### Default value

/usr/lpp/kan/bin/IBM

#### Permissible values

z/OS® UNIX® directory path. Must begin with a forward slash (/).

#### Related parameters

GBL\_DSN\_SYS1\_SBPXEXEC  
RTE\_USS\_RTEDIR  
RTE\_USS\_MKDIR\_MODE

## GBL\_USS\_TKAYHFS\_PATH

This Configuration Manager-only parameter specifies the SMP/E TKAYHFS ddname install directory.

For more information, see [“GBL\\_USS\\_TKAYHFS\\_PATH” on page 284](#).

**Note:** Parameter **GBL\_USS\_TKAYHFS\_PATH** is valid in Configuration Manager only. It is not valid in PARMGEN.

## GBL\_USS\_TKAYHFS\_PATH

This parameter specifies the SMP/E TKAYHFS ddname installation directory.

#### Description

This parameter specifies the path of the z/OS UNIX directory that the SMP/E installation jobs for IBM Z OMEGAMON Data Provider define using the ddname TKAYHFS.

Depending on your local site practices, this path might refer to a copy of the SMP/E-managed directory rather than the original.

This directory is read-only for Monitoring Configuration Manager; Monitoring Configuration Manager does not write to this directory.

#### Default value

/usr/lpp/omdp

#### Permissible values

Character string, maximum length 44

## GBL\_UTIL\_BINDER

This Configuration Manager-only parameter allows you to override the default binder program name.

For more information, see [“GBL\\_UTIL\\_BINDER” on page 294](#).

**Note:** Parameter **GBL\_UTIL\_BINDER** is valid in Configuration Manager only. It is not valid in PARMGEN.

## Runtime environment (RTE) parameters

The runtime environment parameters provide configuration settings for an individual runtime environment and default settings for the OMEGAMON components and products configured in that runtime environment, including the end-to-end response-time analysis feature.

The runtime environment parameters are explained in this section.

### RTE\_BASE\_NAME

This parameter contains the mid-level qualifier for base runtime library allocations.

#### Required or optional

Optional

#### PARMGEN name

RTE\_BASE\_NAME

#### Description

Mid-level qualifier for base runtime library allocations. Accept the default value (the base runtime environment name), even though this parameter is modifiable for a base runtime environment. For a full and sharing runtime environment, the mid-level qualifier is set to the runtime environment name (RTE\_NAME parameter value) and cannot be changed.

#### Related parameters

- [“RTE\\_NAME” on page 1340](#)
- [“RTE\\_TYPE” on page 1358](#)
- [“RTE\\_HILEV” on page 1334](#)
- [“RTE\\_VSAM\\_HILEV” on page 1362](#)

### RTE\_CANSCN\_STC

This parameter gives the name of the OMEGAMON subsystem started task.

#### Required or optional

Optional

#### PARMGEN name

RTE\_CANSCN\_STC

#### Description

This is the name of the started task that will be constructed for the OMEGAMON subsystem. The default in PARMGEN is IBMCN.

#### Related parameters

- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_X\\_KCNSTR00\\_REFRESH” on page 1366](#)
- [“RTE\\_X\\_KCNSTR00\\_PLEXCOLLECT” on page 1365](#)
- [“RTE\\_X\\_KCNDLSSI\\_INITPARAM\\_FLAG” on page 1364](#)

### RTE\_CANSETE\_STC

This parameter contains the name of the started task that measures end-to-end response-time performance.

**Required or optional**

Optional

**PARMGEN name**

RTE\_CANSETE\_STC

**Description**

The started task name for the end-to-end server. The default value in PARMGEN is IBMETE.

**Related parameters**

None

**RTE\_CLONE\_FROM\_HLQRTE**

Specifies the high-level qualifier of the non-VSAM libraries for the runtime environment (RTE) from which custom data is to be copied.

**Required or optional**

Optional.

**Location where the parameter value is stored**

⌘KANSAMU(KCIJPCLN) job

**Parameter name and syntax**

High-level qualifier of the non-VSAM data set + the RTE name of the data sets to be cloned

**Default value**

%RTE\_HILEV%.SYSA

**Permissible values**

Any valid data set high-level qualifier

**Description**

High-level qualifier of the RTE from which the KCIJPCLN job copies the non-VSAM data sets containing custom data, such as profiles, workspaces, or screenspaces. This parameter must be uncommented in the RTE configuration profile and set to a valid value before the KCIJPCLN job is run.

**Related parameters**

- [“RTE\\_CLONE\\_FROM\\_VSAM\\_HLQRTE” on page 1333](#)

**RTE\_CLONE\_FROM\_VSAM\_HLQRTE**

Specifies the high-level qualifier of the VSAM libraries for the runtime environment (RTE) from which the custom data is to be copied.

**Required or optional**

Optional.

**Location where the parameter value is stored**

⌘KANSAMU(KCIJPCLN) job

**Parameter name and syntax**

High-level qualifier of the VSAM data set + the RTE name of the data sets to be cloned

**Default value**

%RTE\_VSAM\_HILEV%.SYSA

**Permissible values**

Any valid data set high-level qualifier

**Description**

High-level qualifier of the RTE from which the KCIJPCLN job copies the VSAM data sets containing custom data, such as situations, self-describing agent status data, and managed objects. This parameter must be uncommented in the RTE configuration profile and set to a valid value before the KCIJPCLN job is run.

#### Related parameters

- [“RTE\\_CLONE\\_FROM\\_HLORTE” on page 1333](#)

## RTE\_DEBUG\_SYSOUT

This parameter contains the SYSOUT class for diagnostic output DDNAMEs, such as SYSUDUMP and SYSABEND, in generated JCL.

#### Required or optional

Required

#### PARMGEN name

RTE\_DEBUG\_SYSOUT

#### Description

SYSOUT class for diagnostic output DDNAMEs, such as SYSUDUMP and SYSABEND, in generated JCL.

#### Related parameters

- [“RTE\\_LOG\\_SYSOUT” on page 1339](#)

## RTE\_DESCRIPTION

This parameter contains the description of the runtime environment.

#### Required or optional

Optional

#### PARMGEN name

RTE\_DESCRIPTION

#### Description

Description of the runtime environment.

#### Related parameters

- [“RTE\\_NAME” on page 1340](#)
- [“RTE\\_TYPE” on page 1358](#)
- [“RTE\\_SHARE” on page 1349](#)

## RTE\_HILEV

This parameters contains the non-VSAM high-level qualifier to be used for allocating the runtime data sets.

#### Required or optional

Required

#### PARMGEN name

RTE\_HILEV

#### Description

Non-VSAM high-level qualifier to be used for allocating the runtime data sets. If you plan to allocate SMS-managed data sets for the runtime environment, the high-level qualifier that you specify must be eligible for SMS-managed volumes.

For PARMGEN configuration, the value of this parameter for a sharing runtime environment must be the same as the value for the shared runtime environment.

#### Related parameters

- [“RTE\\_VSAM\\_HILEV” on page 1362](#)
- [“RTE\\_BASE\\_NAME” on page 1332](#)
- [“RTE\\_TYPE” on page 1358](#)

## RTE\_JCL\_SUFFIX

This parameter contains the unique JCL suffix to identify the batch job members created by the Configuration Software for this runtime environment in the *shilev*.INSTJOBS data set.

### Required or optional

Required

### PARMGEN name

RTE\_JCL\_SUFFIX

### Description

Unique JCL suffix to identify the batch job members created by the Configuration Software for this runtime environment in the *shilev*.INSTJOBS data set.

If possible, specify the runtime environment name (or an abbreviated version of the runtime environment name) as the JCL suffix. This setup makes it easy to identify the runtime environment associated with each job generated by the Configuration Software and stored in the INSTJOBS data set.

### Related parameters

None

## RTE\_KCN\_CACHE\_KM5\_RMF\_DDS

This parameter specifies the preferred RMF Distributed Data Server (DDS) from which to retrieve data for OMEGAMON for z/OS agents.

### Description

This parameter specifies the network address (IP host name or IP address format) and port number for the RMF DDS that you want the OMEGAMON for z/OS agents running in the Tivoli Enterprise Management Server to retrieve data from, rather than the auto-discovered RMF DDS.

### Required or optional

Optional

### Permissible values

Host name or IP address, and port number in the following format:

```
host_name/IP_address:port
```

Character string, maximum length 50

### Default value

null

### Related parameters

- [“RTE\\_KM5\\_NTH” on page 1338](#)

## RTE\_KCN\_VTAM\_APPL\_LOGON

This parameter specifies the VTAM APPLID for logging on to the OMEGAMON Subsystem for purposes of diagnostics.

### Description

**Note:** Previously, this parameter was used for configuring diagnostics related to RMF DDS data caching in the OMEGAMON Subsystem. Use of this function has been deprecated. This parameter has been retained to minimize configuration and administration disruption.

This parameter defines an APPLID that allows you to log on to a diagnostic interface for the OMEGAMON Subsystem. This APPLID is created in the node definition in either an OMEGAMON Subsystem major node, or in the global VTAM major node (CTDNODE, by default) in the RKANSAMU data set.

**Required or optional**

Required

**Permissible values**

Up to 8 alphanumeric characters in the following format:

```
rte_vtam_applid_prefixCNAP
```

**Default value**

CTDCNAP

**Related parameters**

- [“RTE\\_KCN\\_VTAM\\_NODE” on page 1336](#)
- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)

**RTE\_KCN\_VTAM\_NODE**

This parameter specifies the VTAM® major node that contains the VTAM® APPLID definitions for the OMEGAMON® Subsystem.

**Description**

**Note:** Previously, this parameter was used for configuring diagnostics related to RMF DDS data caching in the OMEGAMON Subsystem. Use of this function has been deprecated. This parameter has been retained to minimize configuration and administration disruption.

This parameter defines the name of the VTAM® major node that contains the VTAM® APPLID definitions for the OMEGAMON® Subsystem.

**Required or optional**

Required

**Permissible values**

Up to 8 alphanumeric characters in the following format:

```
rte_vtam_applid_prefixCNN
```

**Default value**

CTDCNN

**Related parameters**

- [“RTE\\_KCN\\_VTAM\\_APPL\\_LOGON” on page 1335](#)
- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)

**RTE\_KCNDLSSI\_IEFSSN00\_FORMAT**

This parameter contains the IEFSSN00 format.

**Required or optional**

Optional

**PARMGEN name**

RTE\_KCNDLSSI\_IEFSSN00\_FORMAT

**Description**

This field specifies the format found in the IEFSSN00 member in the PARMLIB dataset. This member can have one of two formats:

**Keyword**

format allows for dynamic subsystem processing. This is the preferred format for this member when your version of z/OS allows it. Specify K for this field if the member is in Keyword format.

#### Positional

format is for compatibility. Specify P for this field if the member appears as follows:

```
CNDL , KCNDLINT , 'SSPROC=CANSCN'
```

Although both formats can be used, z/OS requires that all the commands in a single concatenation member follow the same format.

#### Related parameters

- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)

## RTE\_KCNSTR00\_SSID

This parameter contains the OMEGAMON subsystem ID.

#### Required or optional

Optional

#### PARMGEN name

RTE\_KCNSTR00\_SSID

#### Description

This field specifies the four-character identifier of the OMEGAMON subsystem. The OMEGAMON subsystem is shipped with a predefined ID set to CNDL. If you change this value, be sure that all references to the subsystem ID in other products configured in this runtime environment are consistent with this value.

#### Related parameters

- [“RTE\\_CANSCN\\_STC” on page 1332](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)

## RTE\_KCNSTR00\_WTO

This parameter writes the IXCQUERY message to the z/OS console.

#### Required or optional

Optional

#### PARMGEN name

RTE\_KCNSTR00\_WTO

#### Description

This field specifies the IXCQUERY WTO messaging mode to determine if warning and error messages will be written to the z/OS operator console. It allows error, warnings, and key informational messages from the OMEGAMON subsystem that are associated with the Coupling Facility Collection enhancement. It also allows automation to take action for problem conditions. All OMEGAMON subsystems within a sysplex must have the same value for this parameter.

#### Error

is the default.

#### All

allows warning, error, and full diagnostic processing messages that are associated with the Coupling Facility Collection enhancement.

#### No

prevents all messages from the OMEGAMON subsystem that are associated with the Coupling Facility Collection enhancement from being written to the z/OS operator console.

#### Related parameters

- [“RTE\\_CANSCN\\_STC” on page 1332](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)

## RTE\_KCNSTR00\_XCFGROUP

This parameter contains the OMEGAMON subsystem XCF group name.

#### Required or optional

Optional

#### PARMGEN name

RTE\_KCNSTR00\_XCFGROUP

#### Description

This is the XCF group name to be used by the OMEGAMON subsystems to share collected data within a sysplex. This value must be a unique name for this sysplex conforming to the naming rules for XCF groups (characters comprising alphabetic, numerals, and national characters). Every OMEGAMON subsystem configured within a sysplex must use the same value.

#### Related parameters

- [“RTE\\_CANSCN\\_STC” on page 1332](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)

## RTE\_KM5\_NTH

This parameter controls whether the OMEGAMON® for z/OS® agent is eligible to retrieve near-term historical data.

#### Description

This parameter controls whether the OMEGAMON® for z/OS® agent is eligible to retrieve near-term historical data.

#### Required or optional

Optional

#### Permissible values

Y, N, YES, NO

#### Default value

Y

#### Related parameters

- [“RTE\\_KCN\\_CACHE\\_KM5\\_RMF\\_DDS” on page 1335](#)

## RTE\_LOAD\_OPTIMIZE

The parameter determines whether to optimize the loading of the runtime environment after maintenance is applied or products are reconfigured.

#### Required or optional

Required

**PARMGEN name**

RTE\_LOAD\_OPTIMIZE

**Description**

Determines whether to optimize the loading of the runtime environment after maintenance is applied or products are reconfigured. (Load optimization takes effect on the second and subsequent load operations but not on the initial loading.)

If you specify Y, the load job has the following characteristics:

- Copies only modified modules from target to runtime libraries.
- Requires access to IBM's SuperC (ISRSUPC) utility.
- Uses less DASD space.
- Performs additional analysis, which uses more CPU processing and file I/O.

If you specify N (the default), the load job has the following characteristics:

- Copies all members from target to runtime libraries, whether or not they were modified.
- Requires more DASD space.
- Uses less CPU time.

**Related parameters**

None

**RTE\_LOAD\_SHARED\_LIBS**

This parameter determines whether to include the shared libraries of a base or full runtime environment in the Load job of a sharing-with-base or sharing-with-full runtime environment.

**Required or optional**

Required

**PARMGEN name**

RTE\_LOAD\_SHARED\_LIBS

**Description**

Determines whether to include the shared libraries of a base or full runtime environment in the Load job of a sharing-with-base or sharing-with-full runtime environment. Accept the default value (Y) to ensure that all maintenance is loaded properly into the runtime environment.

If you have multiple runtime environments that share the same read-only data sets, one of the environments should be configured to load the common shared base libraries

(RTE\_LOAD\_SHARED\_LIBS=Y). All the other sharing environments should be set to N. This prevents the same libraries from being loaded every time you run the KCIJPLOD load job for each sharing environment.

**Related parameters**

- [“RTE\\_TYPE” on page 1358](#)
- [“RTE\\_SHARE” on page 1349](#)

**RTE\_LOG\_SYSOUT**

This parameter contains the SYSOUT class for non-diagnostic output DDNAMEs, such as RKPLOG, in generated JCL.

**Required or optional**

Required

**PARMGEN name**

RTE\_LOG\_SYSOUT

**Description**

SYSOUT class for non-diagnostic output DDNAMEs, such as RKPLOG, in generated JCL.

### Related parameters

- [“RTE\\_DEBUG\\_SYSOUT” on page 1334](#)

## RTE\_NAME

This parameter contains the unique name that identifies the runtime environment.

### Required or optional

Required

### PARMGEN name

RTE\_NAME

### Description

Unique name that identifies the runtime environment. This name is appended to the high-level qualifiers specified in the [“RTE\\_HILEV” on page 1334](#) and [“RTE\\_VSAM\\_HILEV” on page 1362](#) parameters, to make each set of runtime libraries unique.

### Related parameters

- [“RTE\\_HILEV” on page 1334](#)
- [“RTE\\_VSAM\\_HILEV” on page 1362](#)

## RTE\_PDS\_BACKUP\_FLAG

This parameter determines whether to perform backup operations on data sets used by the persistent data store.

### Required or optional

Optional

### PARMGEN name

RTE\_PDS\_BACKUP\_FLAG

### Description

Determines whether to perform backup operations on data sets used by the persistent data store. Backups enable you to keep a copy of the data sets on either tape or DASD. You can then make the data available to the persistent data store again whenever you want.

### Related parameters

- [“RTE\\_PDS\\_KPDPROC\\_PREFIX” on page 1342](#)
- [“RTE\\_PDS\\_EXPORT\\_FLAG” on page 1341](#)
- [“RTE\\_PDS\\_EXTRACT\\_FLAG” on page 1342](#)

## RTE\_PDS\_BATCHINIT\_FLAG

This parameter determines if the BATCHINIT parameter is generated in the *&rhilev.&rte.RKANSAMU(KppPCTL)* Persistent Datastore RKPDI DD command EXEC startup member.

rte\_pds\_batchinit\_flag

### Required or optional

Optional

### Location where the parameter value is stored

Value determines if the BATCHINIT parameter is generated in the *&rhilev.&rte.RKANSAMU(KppPCTL)* Persistent Datastore RKPDI DD command EXEC startup member.

### Parameter name and syntax

BATCHINIT if the flag is Y. Syntax is: MAINTPRC PROC=KPDPROC1 GENPROC BATCHINIT

### Default value

N

### Permissible values

Y, N

### PARMGEN name

RTE\_PDS\_BATCHINIT\_FLAG

### Description

This parameter determines if the BATCHINIT parameter is generated in the *&rhilev.&rte*.RKANSAMU(KppPCTL) Persistent Datastore RKPDI DD command EXEC startup member. Determines the Persistent Datastore (PDS) settings for *x*KANPARU(KppPCTL), *x*KANPARU(KppPG), *x*KANPARU(KppDEFIN) and *x*KANPARU(KppAL) Persistent Datastore control member options.

### Related parameters

- [“Kpp\\_PD\\_HISTCOLL\\_DATA\\_IN\\_AGT\\_STC” on page 1286](#)
- [“Kpp\\_PD\\_HISTCOLL\\_DATA\\_IN\\_TEMS\\_STC” on page 1287](#)
- [“Kpp\\_X\\_PD\\_HISTCOLL\\_DATA\\_AGT\\_STC” on page 1311](#)
- [“Kpp\\_X\\_PD\\_HISTCOLL\\_DATA\\_TEMS\\_STC” on page 1311](#)
- [“RTE\\_PDS\\_BACKUP\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_BATCHINIT\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_EXPORT\\_FLAG” on page 1341](#)
- [“RTE\\_PDS\\_EXTRACT\\_FLAG” on page 1342](#)
- [“Kpp\\_PDS\\_FILE\\_COUNT” on page 1288](#)
- [“RTE\\_PDS\\_HILEV” on page 1342](#)
- [“RTE\\_PDS\\_KPDPROC\\_PREFIX” on page 1342](#)
- [“RTE\\_PDS\\_SMS\\_MGMTCLAS” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_STORCLAS” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_UNIT” on page 1343](#)
- [“RTE\\_PDS\\_SMS\\_VOLUME” on page 1343](#)

## RTE\_PDS\_EXPORT\_FLAG

This parameter determines whether to export data sets used by the persistent data store.

### Required or optional

Optional

### PARMGEN name

RTE\_PDS\_EXPORT\_FLAG

### Description

Determines whether to export data sets used by the persistent data store. The Export option converts the data sets to flat (ASCII) files in an internal format that can be used by other applications. The exported data can also be used for recovery when the persistent data store detects potential problems with its data. To make the exported file available to the persistent data store program again requires the restore program, KPDPREST, to be run against the exported data.

### Related parameters

- [“RTE\\_PDS\\_KPDPROC\\_PREFIX” on page 1342](#)
- [“RTE\\_PDS\\_BACKUP\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_EXTRACT\\_FLAG” on page 1342](#)

## RTE\_PDS\_EXTRACT\_FLAG

This parameters determines whether to write the data to a flat file in human-readable form, which is suitable for loading into other database management systems.

### Required or optional

Optional

### PARMGEN name

RTE\_PDS\_EXTRACT\_FLAG

### Description

Determines whether to write the data to a flat file in human-readable form, which is suitable for loading into other database management systems. The data is extracted from a full data set in EBCDIC form, but the extraction does not empty the data set. The data set is not initialized until it becomes a candidate for being emptied, so the most current data becomes available in an extracted form without that data being lost.

### Related parameters

- [“RTE\\_PDS\\_KPDPROC\\_PREFIX” on page 1342](#)
- [“RTE\\_PDS\\_BACKUP\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_EXPORT\\_FLAG” on page 1341](#)

## RTE\_PDS\_HILEV

This parameter contains the high-level qualifier for the persistent data store libraries.

### Required or optional

Required

### PARMGEN name

RTE\_PDS\_HILEV

### Description

High-level qualifier for the persistent data store libraries.

### Related parameters

None

## RTE\_PDS\_KPDPROC\_PREFIX

This parameter contains the prefix of the started task name that will be used to perform maintenance on the data sets written by the persistent data store.

### Required or optional

Required

### PARMGEN name

RTE\_PDS\_KPDPROC\_PREFIX

### Description

Prefix of the started task name that will be used to perform maintenance on the data sets written by the persistent data store. For detailed information on the persistent data store, see [“Persistent data store V1 \(PDS V1\)” on page 1195](#).

### Related parameters

- [“RTE\\_PDS\\_BACKUP\\_FLAG” on page 1340](#)
- [“RTE\\_PDS\\_EXPORT\\_FLAG” on page 1341](#)
- [“RTE\\_PDS\\_EXTRACT\\_FLAG” on page 1342](#)

## RTE\_PDS\_SMS\_MGMTCLAS

This parameter contains the SMS management class to be used for data set allocation for the persistent data store.

### Required or optional

Optional

### PARMGEN name

RTE\_PDS\_SMS\_MGMTCLAS

### Description

SMS management class to be used for data set allocation for the persistent data store.

### Related parameters

- [“RTE\\_PDS\\_SMS\\_STORCLAS” on page 1343](#)

## RTE\_PDS\_SMS\_STORCLAS

This parameters contains the SMS storage class to be used for data set allocation for the persistent data store.

### Required or optional

Optional

### PARMGEN name

RTE\_PDS\_SMS\_STORCLAS

### Description

SMS storage class to be used for data set allocation for the persistent data store.

### Related parameters

- [“RTE\\_PDS\\_SMS\\_MGMTCLAS” on page 1343](#)

## RTE\_PDS\_SMS\_UNIT

This parameter contains the default unit for non-SMS data set allocation for the persistent data store.

### Required or optional

Required if the runtime data sets are not to be managed by SMS; optional otherwise.

### PARMGEN name

RTE\_PDS\_SMS\_UNIT

### Description

Default unit for non-SMS data set allocation for the persistent data store.

### Related parameters

- [“RTE\\_PDS\\_SMS\\_VOLUME” on page 1343](#)

## RTE\_PDS\_SMS\_VOLUME

This parameter contains the default volume serial number for non-SMS data set allocation for the persistent data store.

### Required or optional

Required if the runtime data sets are not to be managed by SMS; optional otherwise.

### PARMGEN name

RTE\_PDS\_SMS\_VOLUME

### Description

Default volume serial number for non-SMS data set allocation for the persistent data store.

**Related parameters**

- [“RTE\\_PDS\\_SMS\\_UNIT” on page 1343](#)

## RTE\_PDS2\_ACTIVATION

PDS V2 activation switch

**Description**

This parameter indicates whether to activate persistent data store V2 (PDS V2) support for all monitoring agents and the monitoring server.

**Y**

PDS V2 support is enabled for the runtime environment. By default, the monitoring server and all monitoring agents are activated to use PDS V2. You can control PDS V2 activation for a specific agent using the `Kpp_PDS2_ACTIVATION` parameter, and you can control PDS V2 activation for the monitoring server using the `KDS_PDS2_ACTIVATION` parameter.

**N**

PDS V2 support is disabled for the runtime environment; persistent data store V1 will be used instead. By setting this value to N, you will deactivate persistent data store V2 support for all monitoring agents and the monitoring server.

**Default value**

Y

**Permissible values**

Y, N

**Related parameters**

[KDS\\_PDS2\\_ACTIVATION](#)

[Kpp\\_PDS2\\_ACTIVATION](#)

## RTE\_PDS2\_ALLOC\_TYPE

Allocation unit for persistent data store V2

**Description**

This parameter specifies the default allocation unit for PDS V2 data set allocation.

**CYL**

Data sets will be allocated in cylinders.

**MB**

Data sets will be allocated in megabytes.

**Default value**

CYL

**Permissible values**

CYL, MB

**Related parameters**

[KDS\\_PDS2\\_SEC\\_SIZE](#)

[KDS\\_PDS2\\_STORE\\_SIZE](#)

[Kpp\\_PDS2\\_SEC\\_SIZE](#)

[Kpp\\_PDS2\\_STORE\\_SIZE](#)

## **RTE\_PDS2\_HILEV**

High-level qualifier for PDS V2 data sets

### **Description**

This parameter specifies the high-level qualifier for the persistent data store version 2 data sets that will contain historical data.

### **Default value**

%RTE\_VSAM\_HILEV%.%RTE\_NAME%

## **RTE\_PDS2\_SMS\_DATACLAS**

SMS DATACLAS for PDS V2 data set allocation

### **Description**

This parameter specifies the default SMS data class for PDS V2 data set allocation.

To use z/OS® data set encryption for your PDS V2 data sets, specify an SMS data class that has a key label in its definition.

### **Default value**

None

## **RTE\_PDS2\_SMS\_MGMTCLAS**

SMS MGMTCLAS for PDS V2 data set allocation

### **Description**

This parameter specifies the default SMS management class for PDS V2 data set allocation.

### **Default value**

%RTE\_SMS\_VSAM\_MGMTCLAS%

## **RTE\_PDS2\_SMS\_STORCLAS**

SMS STORCLAS for PDS V2 data set allocation

### **Description**

This parameter specifies the default SMS storage class for PDS V2 data set allocation.

### **Default value**

%RTE\_SMS\_VSAM\_STORCLAS%

## **RTE\_PDS2\_VOLUME**

Volume for PDS V2 data set allocation

### **Description**

This parameter specifies the default volume serial number for PDS V2 data set allocation.

### **Default value**

%RTE\_SMS\_VSAM\_VOLUME%

### **Permissible values**

Character string, maximum length 6

## **RTE\_PLIB\_HILEV**

This parameter specifies the high-level qualifier for the runtime environment (RTE).

## Description

This parameter provides the default value for the high-level qualifier of the runtime environment (RTE).

This parameter value is used for the following PARMGEN set-up libraries:

- PARMGEN WCONFIG control library (WCONFIG)
- PARMGEN interim staging (IK\*)
- PARMGEN work output (WK\*)

It is also used in the final PARMGEN or Configuration Manager runtime libraries, including the following libraries:

- Configuration Manager RTE definition library (RTEDEF)
- SYS1 libraries (PROCLIB, VTAMLIB, VTAMLST)
- Runtime environment libraries (RK\*)
- Security exit library (SECEXITS)

**Note:** For the KCIJPCFG job, the RTE\_PLIB\_HILEV parameter is customized to the value supplied during PRPKCIJP step.

## Required or optional

Required

## Default value

%RTE\_PLIB\_HILEV%

## PARMGEN name

RTE\_PLIB\_HILEV

## Related parameters

- [RTE\\_HILEV](#)
- [RTE\\_VSAM\\_HILEV](#)
- [RTE\\_PDS\\_HILEV](#)
- [RTE\\_PDS2\\_HILEV](#)

## RTE\_REMOTE\_LPAR\_FLAG

This parameter determines whether this runtime environment will be run on the local system (N, the default) or transported to other systems (Y).

## Required or optional

Required

## PARMGEN name

RTE\_REMOTE\_LPAR\_FLAG

## Description

Determines whether this runtime environment will be run on the local system (N, the default) or transported to other systems (Y). If the value of this parameter is Y, the value of the [“RTE\\_USERMODS\\_FLAG” on page 1359](#) parameter must be N, and vice versa.

## Related parameters

- [“RTE\\_USERMODS\\_FLAG” on page 1359](#)

## RTE\_SECURITY\_CLASS

This parameter specifies a System Authorization Facility (SAF) security class name for OMEGAMON enhanced 3270 user interface security controls.

### Description

Use this parameter to specify the SAF security class for OMEGAMON enhanced 3270 user interface (enhanced 3270UI) security controls. The enhanced 3270UI performs security validation processing by authenticating the user identity using the SAF interface. The existence of the SAF user and its validity (that is, whether it is suspended) are always checked.

This parameter applies to the OMEGAMON enhanced 3270 user interface and the OMEGAMON monitoring agents that use the enhanced 3270UI. Individual products have additional SAF security settings that are specific to the respective product (for example, how to secure product-specific Take Action requests). To secure other products, see the product-specific documentation for information.

**Important (for Configuration Manager users only):** If a value is not specified for override parameter `Kpp_SECURITY_ACTION_CLASS` (where *pp* is C5, M5, or N3), then the `RTE_SECURITY_CLASS` parameter value will be assigned as the default value.

### Required or optional

Optional

### Default value

None

### Permissible values

A valid SAF class name, which can be a string of up to 8 characters. If you are using ACF2 as your external security resource manager, specify a maximum of 3 characters.

### Related parameters

- [KOB\\_SAF\\_ACTION\\_CLASS\\_NAME](#)
- [KC5\\_SECURITY\\_ACTION\\_CLASS](#)
- [KM5\\_SECURITY\\_ACTION\\_CLASS](#)
- [KN3\\_SECURITY\\_ACTION\\_CLASS](#)

## RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG

This parameter controls if password and password phrase (passphrase) values are folded to uppercase.

### Description

By default, the TMS:Engine folds logon password and password phrase (passphrase) values to uppercase (parameter default value Y).

If you want to use mixed-case password or passphrase values, set this parameter to N so that the characters do not fold to uppercase, allowing mixed-case values to persist.

**Note:** Support for mixed-case passwords on your system requires activation of the SETROPTS PASSWORD(MIXEDCASE) option in RACF®.

### Default value

Y

### Permissible values

Y, N

### Related parameters

RTE\_SECURITY\_USER\_LOGON

## RTE\_SECURITY\_KAES256\_KEY

This parameter contains unique 32-byte password encryption key.

### Required or optional

This parameter is required if any of the following conditions are in effect:

- Password encryption is enabled for any components.
- A SOAP server is enabled on a remote Tivoli® Enterprise Monitoring Server.
- Strict security for command requests is enabled (security compatibility mode is *disabled*).

### Location where the parameter value is stored

KAES256 member of the &rhilev.&rte.RKANPARU library. The stored value is encrypted.

### Default value

IBMTivoliMonitoringEncryptionKey

### Permissible values

A character string, with a maximum length of 32 and no ampersand (&) character.

### Description

A unique 32-byte password encryption key. The value is case-sensitive. You must use the same key during the installation of any components that communicate with the monitoring server. This parameter allows stand-alone agents as well as monitoring servers to customize the TMS:Engine password encryption key. This parameter replaces the KDS\_TEMS\_SECURITY\_KAES256\_ENCKEY.

### Related parameters

[“GBL\\_DSN\\_CSF\\_SCSFMODE0” on page 280](#)

[“KDS\\_KMS\\_SECURITY\\_COMPATMD” on page 1379](#)

## RTE\_SECURITY\_USER\_LOGON

This parameters contains the security system to be used for the runtime environment.

### Required or optional

Required

### Location where the parameter value is stored

N/A

### Parameter name and syntax

Various

### Default value

None

### Permissible values

RACF, ACF2, TSS (Top Secret), NAM, SAF, or None

### PARMGEN name

RTE\_SECURITY\_USER\_LOGON

### Description

Security system to be used for the runtime environment. If you specify a security system, verify that it is installed and configured correctly for your site. If you specify ACF2, you must also provide the name of the ACF2 macro library as the value of the GBL\_DSN\_ACF2\_MACLIB parameter.

The PARMGEN configuration method supports one additional permissible value: SAF. The System Authorization Facility (SAF) provides a generic API to interface to z/OS® security software. Specifying a security system here indicates which system will be used for security validation of users signing on to the Tivoli Enterprise Portal, but it does not enable validation. Security validation of users is enabled by the KDS\_TEMS\_SECURITY\_KDS\_VALIDATE parameter.

In addition, the security-related parameters are used in the PARMGEN WKANSAMU(KCIJPSEC) composite security job and product-specific, stand-alone versions of these security jobs. They are also used in several xKANPARU runtime members such as:

**xKANPARU(KppINNAM)**

for the TMS:Engine security member

**xKANPARU(KDSENV)**

for the KDS\_TEMS\_SECURITY\_KDS\_VALIDATE parameter

**xKANPARU(KppENV)**

for the RTE\_SECURITY\_CLASS parameter

**xKANMODU(&module)**

for product-specific security exits

**Related parameters**

- [“RTE\\_SECURITY\\_FOLD\\_PASSWORD\\_FLAG” on page 287](#)
- [“RTE\\_X\\_SECURITY\\_EXIT\\_LIB” on page 1367](#)
- [“RTE\\_X\\_SECURITY\\_DATA\\_ABOVE” on page 1366](#)
- [“GBL\\_DSN\\_ACF2\\_MACLIBn” on page 1312](#)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KDS\\_TEMS\\_SECURITY\\_KDS\\_VALIDATE” on page 1407](#)

## RTE\_SHARE

This parameter specifies the source of the libraries that are shared with a sharing runtime environment.

**Note:** This parameter is valid in both Configuration Manager and PARMGEN; however, the permissible values are different depending on the tool.

**Description**

This parameter applies to sharing runtime environments only.

**In Configuration Manager**

This parameter value must be SMP, to indicate sharing with an SMP/E target installation library. This is the only permissible value for Configuration Manager.

**In PARMGEN**

Name of the base or full runtime environment from which the sharing runtime environment obtains its base library information.

If target libraries that were installed by SMP/E are to be shared, provide the value SMP.

**Required or optional**

Required for a sharing runtime environment definition

**Default value**

**In Configuration Manager**

SMP

**In PARMGEN**

None

**Related parameters**

- [“RTE\\_TYPE” on page 1358](#)
- [“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)

## RTE\_SMS\_MGMTCLAS

This parameter specifies whether the runtime data sets are to be managed by SMS.

### Required or optional

Optional

### PARMGEN name

RTE\_SMS\_MGMTCLAS

### Description

If the runtime data sets are to be managed by SMS, specify the SMS management class to be used for the allocation of non-VSAM data sets. If your site does not require the SMS MGMTCLAS parameter, you can leave this field blank.

### Related parameters

- [“RTE\\_SMS\\_VSAM\\_MGMTCLAS” on page 1351](#)
- [“RTE\\_SMS\\_STORCLAS” on page 1350](#)

## RTE\_SMS\_PDSE\_FLAG

This parameter specifies whether the non-VSAM data sets are to be managed by SMS, and therefore you want to allocate PDSE data sets instead of PDS data set

### Required or optional

Required

### PARMGEN name

RTE\_SMS\_PDSE\_FLAG

### Description

If the non-VSAM data sets are to be managed by SMS, you can specify Y to allocate PDSE data sets instead of PDS data sets. PDSE data sets do not require compression and are not limited by a predefined number of directory entries.

Even if you specify Y, most load module libraries (RKANMOD, RKANMODL, RKANMODR, and RKANMODU) are not allocated as PDSE data sets. The main exception is RKANMODP, a load module library used for the SMP/E CALLLIBS facility.

### Related parameters

None

## RTE\_SMS\_STORCLAS

This parameter specifies whether the runtime data sets are to be managed by SMS and therefore it is necessary to specify the SMS storage class to be used for the allocation of non-VSAM data sets.

### Required or optional

Optional

### PARMGEN name

RTE\_SMS\_STORCLAS

### Description

If the runtime data sets are to be managed by SMS, specify the SMS storage class to be used for the allocation of non-VSAM data sets. If your site does not require the SMS STORCLAS parameter, you can leave this parameter value blank.

### Related parameters

- [“RTE\\_SMS\\_VSAM\\_STORCLAS” on page 1351](#)
- [“RTE\\_SMS\\_MGMTCLAS” on page 1350](#)

## RTE\_SMS\_UNIT

This parameter specifies the unit name to be used for allocating the non-VSAM runtime data sets, if the data sets are not managed by SMS.

### Required or optional

Required if the runtime data sets are not to be managed by SMS; optional otherwise.

### PARMGEN name

RTE\_SMS\_UNIT

### Description

If the runtime data sets are not to be managed by SMS, specify the unit name to be used for allocating the non-VSAM runtime data sets. Otherwise, leave the parameter value blank.

### Related parameters

- [“RTE\\_SMS\\_VOLUME” on page 1351](#)

## RTE\_SMS\_VOLUME

This parameter specifies the volume serial number to be used for allocating the non-VSAM runtime data sets if the runtime data sets are not to be managed by SMS.

### Description

If the runtime data sets are not to be managed by SMS, specify the volume serial number to be used for allocating the non-VSAM runtime data sets. Otherwise, leave the parameter value blank.

### Permissible values

Character string, maximum length 6

### Related parameters

- [“RTE\\_SMS\\_UNIT” on page 1351](#)
- [“RTE\\_SMS\\_VSAM\\_VOLUME” on page 1352](#)

## RTE\_SMS\_VSAM\_MGMTCLAS

This parameter specifies the SMS management class to be used for the allocation of VSAM data sets, if the runtime data sets are to be managed by SMS.

### Required or optional

Optional

### PARMGEN name

RTE\_SMS\_VSAM\_MGMTCLAS

### Description

If the runtime data sets are to be managed by SMS, specify the SMS management class to be used for the allocation of VSAM data sets. If your site does not require the SMS MGMTCLAS parameter, you can leave this field blank.

### Related parameters

- [“RTE\\_SMS\\_MGMTCLAS” on page 1350](#)
- [“RTE\\_SMS\\_VSAM\\_STORCLAS” on page 1351](#)

## RTE\_SMS\_VSAM\_STORCLAS

This parameter specifies the SMS storage class to be used for the allocation of VSAM data sets if the runtime data sets are to be managed by SMS.

### Required or optional

Optional

**PARMGEN name**

RTE\_SMS\_VSAM\_STORCLAS

**Description**

If the runtime data sets are to be managed by SMS, specify the SMS storage class to be used for the allocation of VSAM data sets. If your site does not require the SMS STORCLAS parameter, you can leave this field blank.

**Related parameters**

- [“RTE\\_SMS\\_STORCLAS” on page 1350](#)
- [“RTE\\_SMS\\_VSAM\\_MGMTCLAS” on page 1351](#)

**RTE\_SMS\_VSAM\_VOLUME**

This parameter specifies the volume serial number to be used for allocating the VSAM runtime data sets, if the runtime data sets are not managed by SMS.

**Description**

Volume serial number to be used for allocating the VSAM runtime data sets. This value is required if the runtime data sets are not to be managed by SMS. Otherwise, leave this parameter value blank.

**Permissible values**

Character string, maximum length 6

**Related parameters**

- [“RTE\\_SMS\\_VOLUME” on page 1351](#)

**RTE\_STC\_PREFIX**

This parameter specifies a prefix to be used when generating started task procedures for products configured in the runtime environment.

**Required or optional**

Required for full and sharing runtime environments; does not apply to base runtime environments.

**PARMGEN name**

RTE\_STC\_PREFIX

**Description**

For full and sharing runtime environments, specify a prefix to be used when generating started task procedures for products configured in the runtime environment. The default value of CANS (Configuration Tool) or IBM (PARMGEN) is provided, but specifying your own prefix prevents confusion with jobs generated by other runtime environments on the same system.

The started task names and VTAM-related members must specify unique names to not collide with other products' members.

**Related parameters**

- [“GBL\\_DSN\\_SYS1\\_PROCLIB” on page 1323](#)
- [“GBL\\_DSN\\_SYS1\\_VTAMLST” on page 1325](#)
- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)
- [“RTE\\_X\\_STC\\_INAPF\\_INCLUDE\\_FLAG” on page 1372](#)
- 

**RTE\_SYSV\_BASE\_ALIAS**

This parameter specifies a system variable for the base runtime environment for a sharing-with-base runtime environments with system variables enabled.

**Required or optional**

Required for full and sharing runtime environments with system variables enabled; does not apply to base runtime environments

**PARMGEN name**

RTE\_SYSV\_BASE\_ALIAS

**Description**

For a sharing-with-base runtime environment with system variables enabled (RTE\_SYSV\_SYSVAR\_FLAG = Y), specify a system variable for the base runtime environment. This value is then inserted into the base runtime environment data set references in all started tasks. The resolved name must be a valid data set name qualifier.

For other types of runtime environments, the label n/a is displayed with this field.

**Related parameters**

- [“RTE\\_SYSV\\_SYSVAR\\_FLAG” on page 1353](#)
- [“RTE\\_BASE\\_NAME” on page 1332](#)

## RTE\_SYSV\_NAME

This parameter contains the system variable for the name of the runtime environment.

**Required or optional**

Required for full and sharing runtime environments with system variables enabled; does not apply to base runtime environments

**PARMGEN name**

RTE\_SYSV\_NAME

**Description**

System variable for the name of the runtime environment. The resolved name must be a single valid JCL symbol, as defined in the *z/OS® MVS™ JCL Reference*. This field becomes the value of the SYS= parameter (for example, SYS='SYSNAME') in all started task members. This field can contain both literals and symbolics. For example, if you specify a value of OMXSYSNAME, the value resolves to a runtime environment name of OMXSYSA when SYSNAME = SYSA.

**Related parameters**

- [“RTE\\_SYSV\\_SYSVAR\\_FLAG” on page 1353](#)
- [“RTE\\_NAME” on page 1340](#)

## RTE\_SYSV\_SYSVAR\_FLAG

This parameter determines whether to enable z/OS® system variables, which are elements that allow systems to share PARMGEN definitions while retaining unique values in those definitions.

**Required or optional**

Required for full and sharing runtime environments; does not apply to base runtime environments.

**PARMGEN name**

RTE\_SYSV\_SYSVAR\_FLAG

**Description**

Determines whether to enable z/OS® system variables, which are elements that allow systems to share PARMGEN definitions while retaining unique values in those definitions. Each system that shares a definition replaces the system variable with a unique value during initialization.

If you use system variables, the components inherit the system values for the system on which they are started (the host z/OS® system). These system-specific values are then automatically loaded into dynamic in-memory parameter members that exist only while the component runs. The result is that the software runs correctly by using the system-specific parameter values for the host z/OS® system.

**Note:** You cannot use system variables in the runtime environment of a high-availability hub.

### Related parameters

- [“RTE\\_SYSV\\_NAME” on page 1353](#)
- [“RTE\\_SYSV\\_BASE\\_ALIAS” on page 1352](#)

## RTE\_SYSV\_VTAM\_NETID

This parameter specifies a system variable for the VTAM® network identifier, if system variables are enabled and you intend to use SNA communications.

### Required or optional

Required for SNA communications if system variables are enabled

### PARMGEN name

RTE\_SYSV\_VTAM\_NETID

### Description

If system variables are enabled (RTE\_SYSV\_SYSVAR\_FLAG = Y) and if you intend to use SNA communications, supply a system variable for the VTAM® network identifier, as defined in the NETID parameter of the VTAMLST startup member ATCSTRnn. The resolved value can have a maximum of 8 characters. This value is required for SNA communications. If none of the products or components you intend to configure in this runtime environment require SNA communications, leave this parameter value blank.

### Related parameters

- [“RTE\\_SYSV\\_SYSVAR\\_FLAG” on page 1353](#)
- [“RTE\\_VTAM\\_NETID” on page 1363](#)

## RTE\_TCP\_HOST

This parameter contains the TCP/IP hostname or IP address of the z/OS® system where the runtime environment is being defined.

### Description

This parameter contains the TCP/IP hostname or IP address of the z/OS® system where the runtime environment is being defined. To obtain the hostname and IP address, you can enter **TSO HOMETEST** at a command line.

For a high-availability hub monitoring server, this parameter value must be set to the dynamic virtual IP address (DVIPA) and must match the value in parameter **KDS\_TEMS\_TCP\_HOST**.

#### For Configuration Manager:

To ensure consistent settings for the agents and components in the runtime environment, this parameter provides the default value for some other parameters that specify the hostname.

If you configure a monitoring server as part of your runtime environment, this parameter value is used as the default **KDS\_TEMS\_TCP\_HOST** parameter value. Depending on other settings in the runtime environment, this parameter value might also be used as the default value for the **Kpp\_TEMS\_TCP\_HOST** parameters.

If you do not configure a monitoring server as part of the runtime environment, this parameter value is used as the default value for the **Kpp\_TEMS\_TCP\_HOST** parameters.

#### For PARMGEN:

This parameter does not impact the default setting of any other parameter value.

### Default value

%SYSIPHOSTNAME%

### Permissible values

Character string, maximum length 39

### Related parameters

- [RTE\\_TCP\\_PORT\\_NUM](#)

- KDS\_TEMS\_TCP\_HOST
- KDS\_HUB\_TCP\_HOST
- Kpp\_TEMS\_TCP\_HOST

## RTE\_TCP\_PORT\_NUM

This parameter contains the well-known port for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4).

### Description

Well-known port for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4).

#### For Configuration Manager:

This parameter sets the default values of several parameters that specify port numbers, including:

**KDS\_TEMS\_TCP\_PIPE\_PORT\_NUM**  
**Kpp\_TEMS\_TCP\_PIPE\_PORT\_NUM**

#### For PARMGEN:

This parameter does not impact the default setting of any other parameter value.

### Default value

1918

### Permissible values

1 - 65535

### Related parameters

- RTE\_TCP\_HOST
- KDS\_TEMS\_TCP\_PIPE\_PORT\_NUM

## RTE\_TEMS\_CONFIGURED\_FLAG

This parameter specifies whether a Tivoli Enterprise Monitoring Server is to be configured in this runtime environment.

### Required or optional

Required for full and sharing runtime environments; does not apply to base runtime environments.

### PARMGEN name

RTE\_TEMS\_CONFIGURED\_FLAG

### Description

Determines whether a Tivoli Enterprise Monitoring Server is to be configured in this runtime environment. If you are creating a runtime environment for stand-alone monitoring agents without a monitoring server, specify N. Otherwise, specify Y (the default) to allocate libraries for the monitoring server. If Y is specified, the managed system name of the local monitoring server must be specified as the RTE\_TEMS\_NAME\_NODEID. A remote server connecting to a hub uses the hub's RTE\_TEMS\_NAME\_NODEID as its KDS\_HUB\_TEMS\_NAME\_NODEID.

### Related parameters

- "RTE\_TEMS\_NAME\_NODEID" on page 1355
- KDS\_HUB\_TEMS\_NAME\_NODEID

## RTE\_TEMS\_NAME\_NODEID

This parameter specifies the unique name that identifies the monitoring server for internal processing.

### Description

Unique name that identifies the monitoring server for internal processing. In general, it is best to accept the default TEMS name (the runtime environment name followed by :CMS). If you want to specify a different name, follow these guidelines:

- The TEMS name must be unique.
- The name is alphanumeric and must begin with an alphabetic character.
- The length of the name must be at least 2 characters and no more than 32 characters.
- The name cannot contain blanks or special characters (\$#@). An underscore ( ) is permitted and conforms to ISO 9660 standards. A period (.) is also valid.
- The TEMS name is case-sensitive on all platforms. If you use a mixed-case name, you must supply the same mixed-case name when you configure all components and monitoring agents that will connect to the monitoring server.

Be sure to make a note of the TEMS name. You will have to specify it when you configure components and products in the runtime environment, and when you set up communications with the distributed components of Tivoli Management Services (IBM Tivoli Monitoring).

This parameter is required for a full or sharing runtime environment that contains a Tivoli Enterprise Monitoring Server.

#### Permissible values

Character string, maximum length 32

#### Related parameters

- [“RTE\\_TEMS\\_CONFIGURED\\_FLAG” on page 1355](#)

## RTE\_TEMS\_TRANSPORT\_MODE

Use this parameter to specify the Hypertext Transfer Protocol to use for communication with the Tivoli Enterprise Monitoring Server.

#### Description

This parameter specifies the Hypertext Transfer Protocol to use for communication between the Tivoli Enterprise Monitoring Server (TEMS) and other components.

**Note:** HTTP and HTTPS communication protocol configuration specified in **Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS** and **Kpp\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS** can potentially override **RTE\_TEMS\_TRANSPORT\_MODE** parameter output in the *KppENV* members.

#### Permissible values

##### HTTPS

Enables the HTTPS communication protocol for the Tivoli Enterprise Monitoring Server, and disables the HTTP communication protocol for all agents. Use parameter **KDS\_TEMS\_HTTPS\_PORT\_NUM** to specify the HTTPS port.

##### HTTP

Enables HTTP communication protocol for the Tivoli Enterprise Monitoring Server, and disables the HTTPS communication protocol. Use parameter **KDS\_TEMS\_HTTP\_PORT\_NUM** to specify the HTTP port.

##### NONE

Disables HTTP and HTTPS communication protocols for all agents.

#### Default value

HTTPS

#### Related parameters

- [KDS\\_TEMS\\_HTTP\\_PORT\\_NUM](#)
- [KDS\\_TEMS\\_HTTPS\\_PORT\\_NUM](#)
- [Kpp\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS](#)

- [Kpp\\_X\\_KDE\\_TRANSPORT\\_GBL\\_OPTIONS](#)

## RTE\_TN3270\_DXL\_HOSTADDRESS

This parameter specifies the network address of an LPAR that does have an active Telnet listener, if you are configuring products that support the Dynamic XE to 3270 (Classic) linking feature and if the LPAR in which you are defining a runtime environment does not have an active Telnet listener.

### Description

If you are configuring products that support the Dynamic XE to 3270 (Classic) linking feature and if the LPAR in which you are defining a runtime environment does not have an active Telnet listener, specify the network address of an LPAR that does have an active Telnet listener. A network address can be specified as one of the following values:

- Fully qualified hostname (for example, `sys.ibm.com`)
- First qualifier of the fully qualified hostname (for example, `sys` for `sys.ibm.com`)
- 32-bit IPv4 address in dotted decimal notation (for example, `9.67.1.100`)

To get this value, issue the `TSO HOMETEST` command on the LPAR of the Telnet listener. The values you specify on this panel are displayed during TN3270 logon and can be modified then for an individual TN3270 session.

### Default value

`%SYSIPHOSTNAME%`

### Permissible values

Character string, maximum length 44

### Related parameters

- [“RTE\\_TN3270\\_DXL\\_TN3270PORT” on page 1357](#)

## RTE\_TN3270\_DXL\_LUGROUP

This parameter specifies the name of a Logical Unit (LU) group if the default Telnet USS screen does not accept the `LOGON APPLID() DATA()` command required by the Dynamic XE to 3270 (Classic) linking feature.

### Required or optional

Required

### PARMGEN name

`RTE_TN3270_DXL_LUGROUP`

### Description

The Dynamic XE to 3270 (Classic) linking feature requires the VTAM® Unformatted System Services (USS) screen to accept a `LOGON APPLID() DATA()` command. If the default Telnet USS screen does not accept this command, supply the name of a Logical Unit (LU) group that does accept it. The TN3270 session will be joined to that LU group.

### Related parameters

None

## RTE\_TN3270\_DXL\_TN3270PORT

This parameter contains the port number on which the TN3270 server is listening.

### Required or optional

Optional

### PARMGEN name

`RTE_TN3270_DXL_TN3270PORT`

### Description

Port number on which the TN3270 server is listening.

## Related parameters

- [“RTE\\_TN3270\\_DXL\\_HOSTADDRESS” on page 1357](#)

## RTE\_TYPE

This parameter specifies the type of runtime environment being created.

**Note:** This parameter is valid in both Configuration Manager and PARMGEN; however, the default value is different depending on the tool.

### Description

#### In Configuration Manager

This parameter determines whether runtime members are a full stand-alone set or shared with SMP/E target installation libraries. The following types are valid:

##### FULL

Stand-alone runtime members. Runtime members have no dependency on target libraries.

##### SHARING

Some runtime members refer to the target libraries.

The high-level qualifiers of the target libraries are specified by the **GBL\_TARGET\_HILEV** parameter.

SHARING reduces the storage requirement for each runtime environment.

If **RTE\_TYPE** is SHARING, then the value of the **RTE\_SHARE** parameter must be SMP.

#### In PARMGEN

This parameter specifies the type of runtime environment being created. The following types are valid:

##### FULL

Allocates both private and base libraries. Use this if you only need one runtime environment or if you need a runtime environment for a unique set of products.

##### SHARING

Allocates private libraries only. This type can either share base libraries with a base or full runtime environment, or use target libraries that were installed by SMP/E for its base libraries. Define one sharing runtime environment for each z/OS® image.

**Note:** Base libraries are created automatically as part of creating the first runtime environment that shares the base runtime environment. Runtime environments created after this one can point to the existing base using the **RTE\_SHARE** parameter.

For more information about the types of runtime environments, see [What types of runtime environments to set up](#).

### Default value

#### In Configuration Manager

SHARING

#### In PARMGEN

FULL

### Related parameters

- [“RTE\\_SHARE” on page 1349](#)
- [“RTE\\_BASE\\_NAME” on page 1332](#)

## RTE\_USERMODS\_FLAG

This parameter determines whether the Configuration Tool will identify user-modified data set members that each configuration batch job will affect.

### Required or optional

Required

### PARMGEN name

RTE\_USERMODS\_FLAG

### Description

Determines whether PARMGEN will identify user-modified data set members that each configuration batch job will affect. If runtime members analysis is enabled, a report of user-modified members is displayed. If the value of this parameter is Y, the value of the [“RTE\\_REMOTE\\_LPAR\\_FLAG” on page 1346](#) parameter must be N, and vice versa.

### Related parameters

- [“RTE\\_REMOTE\\_LPAR\\_FLAG” on page 1346](#)

## RTE\_USS\_MKDIR\_MODE

This parameter allows the z/OS® UNIX® System Services access mode that is used in the PARMGEN and Configuration Manager jobs to be customized to a site's security audit requirements.

### Description

This parameter allows customization of the access mode that is used in the following configuration jobs:

- In PARMGEN:
  - KCIJPUSP, which creates the z/OS UNIX-related members in the RKANDATV runtime library for use in the composite KCIJPUSS job. For example, this includes the creation of the RTE RKANDATV(KDSRMKDB) TEMS self-describing agent (SDA) member that contains the **mkdir** commands for the SDA z/OS UNIX runtime environment directories.
  - KCIJPUSS, which creates the z/OS UNIX directories (using commands prepared by the KCIJPUSP job) and copies the z/OS UNIX files.
- In Configuration Manager:
  - KYNJSUSU, which is used by the **GENERATE** action.

The TEMS SDA directories are created with the default access mode value of 775, which generates MODE(7,7,5) in the **mkdir** commands.

**Note:** This parameter is only for creating z/OS UNIX directories. If you want to change the access mode for existing directories and files, use the **chmod** command or delete the old directories before you regenerate and rerun the KCIJPUSP and KCIJPUSS jobs or the **GENERATE** action.

### Required or optional

Required

### Default value

775

### Permissible values

Octal values (0-7) for each digit

### Related parameters

[“GBL\\_HFS\\_JAVA\\_DIRn” on page 1328](#) (typically in WCONFIG(\$GBL\$USR))

[“GBL\\_DSN\\_SYS1\\_SBPXEXEC” on page 1324](#) (typically in WCONFIG(\$GBL\$USR))

[“KDS\\_KMS\\_SDA” on page 1378](#)

[“KDS\\_TEMA\\_SDA” on page 1394](#)

[“Kpp\\_AGT\\_TEMA\\_SDA” on page 1277](#) (per Kpp agent exploiting SDA)

[“RTE\\_USS\\_RTEDIR” on page 1360](#)

## RTE\_USS\_RTEDIR

This parameter specifies the main Hierarchical File System/zSeries File System (HFS/zFS) directory name for the runtime environment, if a product to be configured in the runtime environment requires that z/OS® UNIX® System Services directories be created.

### Required or optional

Optional

### Location where the parameter value is stored

The KDSENV member of the *rhllev.middlev.rtename*.RKANPARU library

### Parameter name and syntax

TEMS\_MANIFEST\_PATH=#rtedir/LPARRTE/kds/support/TEMS

### Default value

/rtehome

### Permissible values

See description.

### PARMGEN name

RTE\_USS\_RTEDIR

### Description

This parameter is conditional. If any products in this runtime environment require that z/OS UNIX directories be created, specify the RTE HFS/zFS home directory (*#rtedir*).

#### Note:

1. Specify the main RTE HFS/zFS home directory name if you are enabling the Self-Describing Agent (SDA) function in the z/OS TEMS and Agents. SDA applies to Tivoli Management Services V6.2.3 or later.
2. Set up required authorizations and files for SDA.
  - Create a user ID with superuser authority (a TSO ID with an OMVS segment defined to it) if you do not already have one. Product configuration z/OS UNIX jobs (KCIJ%USP/KCIJ%USS) that use the RTE\_USS\_RTEDIR home directory parameter must be run by a user ID that has superuser authority (UID=0), or a user ID with read access to resource BPX.SUPERUSER under the FACILITY profile with superuser authority activated. Both the user ID of the KCIJPUS\* z/OS UNIX job submitter and the %KDS\_TEMS\_STC% TEMS started task name must have superuser authority. For more information about assigning superuser authority, see [Superusers in z/OS UNIX](#).
  - Choose an existing file system or create a new one for products that use the RTE\_USS\_RTEDIR home directory parameter. This file system must be created, mounted, and in read/write mode before the z/OS UNIX jobs that define the file system paths are submitted. Select a name for your RTE that establishes or fits a naming convention that can be used as you install additional RTEs.
  - In the MOUNT FILESYSTEM command, the MOUNTPOINT() parameter equates to the value you specify for the RTE\_USS\_RTEDIR. For example:

```
MOUNT FILESYSTEM('&hlq_rte_home') TYPE(ZFS) MODE(RDWR) MOUNTPOINT('/  
rtehome') PARM('AGGRGROW')
```

An example of this using RTE name TSTEST might be

```
MOUNT FILESYSTEM('OMVS.TSTEST.ZFS') TYPE(ZFS) MODE(RDWR) MOUNTPPOINT('/tstest') PARM('AGGRGROW')
```

3. The RTE\_USS\_RTEDIR value (*#rtedir*) is used in this TEMS parameter in the *xKANPARU* library:

```
TEMS_MANIFEST_PATH=\
#rtedir/%RTE_NAME%/kds/support/TEMS
```

The TEMS\_MANIFEST\_PATH parameter is the name of the z/OS UNIX home directory where agent-uploaded jar files and other application support files will be stored by the TEMS. The *#rtedir* value is also used in the KDS\* members in RKANDATV. These members contain the commands that create the z/OS UNIX directories and send files to the z/OS UNIX subdirectories.

4. Customize RTE\_USS\_MKDIR\_MODE parameter if you must secure access mode to be used in the PARMGEN composite z/OS UNIX-related jobs (KCIJPUSP/KCIJPUSS). The default is "755" which generates "MODE(7,5,5)" in the mkdir commands to create the new TEMS SDA directories. PARMGEN KCIJPUSP z/OS UNIX preparation job creates the RTE RKANDATV(KDSRMKDB) TEMS Self-Describing Agent (SDA) member that contains the SDA z/OS UNIX RTEDIR mkdir commands. MODE() is customized to site's security audit requirements based on the value supplied in the RTE\_USS\_MKDIR\_MODE parameter. The RTE\_USS\_MKDIR\_MODE parameter is used only to creating new z/OS UNIX directories. If the z/OS UNIX directories already exist and you want a different access mode for the directories and files, use the CHMOD command or delete the old directories before regenerating and rerunning the KCIJPUSP/KCIJPUSP jobs. For additional security considerations, see "Checklist: Prepare the system" on-line README topic on the "Welcome to the z/OS Installation and Configuration Tools for IBM Tivoli Management Services (TMS) dependent products" KCIP@PGW panel.

### Related parameters

- "[GBL\\_HFS\\_JAVA\\_DIRn](#)" on page 1328 (typically in WCONFIG(\$GBL\$USR))
- "[GBL\\_DSN\\_SYS1\\_SBPXEXEC](#)" on page 1324 (typically in WCONFIG(\$GBL\$USR))
- "[GBL\\_USS\\_TKANJAR\\_PATH](#)" on page 284 (for products that deliver TKANJAR)
- "[RTE\\_USS\\_MKDIR\\_MODE](#)" on page 1359
- "[KDS\\_KMS\\_SDA](#)" on page 1378
- "[KDS\\_KMS\\_SDA\\_NO\\_GRANULAR](#)" on page 1379 (applicable to ITM6.3.0 or later)
- "[KDS\\_TEMA\\_SDA](#)" on page 1394
- "[Kpp\\_AGT\\_TEMA\\_SDA](#)" on page 1277 (per *Kpp* Agent exploiting SDA)

## RTE\_VALIDATION\_LEVEL

This parameter specifies the level of checking that is performed during parameter validation.

### Description

This parameter specifies the level of checking that is performed during parameter validation.

In Configuration Manager, parameter validation occurs during the **GENERATE** action and the **GENERATE** action with **OPTION VALIDATE**.

In PARMGEN, parameter validation occurs during the WCONFIG(KCIJPVAL) validation job or the VALIDATE step of the WCONFIG(\$PARSE\*) job.

### Default value

W

## Permissible values

### I (Informational)

The least restrictive level.

### W (Warning)

The default. This is basically the toleration mode level.

### E (Error)

The most restrictive validation level. Each invalid parameter value is reported as an error and stops further validation processing.

## RTE\_VSAM\_HILEV

This parameter specifies the VSAM high-level qualifier to be used for allocating the runtime data sets

### Required or optional

Required

### PARMGEN name

RTE\_VSAM\_HILEV

### Description

VSAM high-level qualifier to be used for allocating the runtime data sets. If you plan to allocate SMS-managed data sets for the runtime environment, the high-level qualifier that you specify must be eligible for SMS-managed volumes.

For PARMGEN configuration, the value of this parameter for a sharing runtime environment must be the same as the value for the shared runtime environment.

### Related parameters

- [“RTE\\_HILEV” on page 1334](#)
- [“RTE\\_BASE\\_NAME” on page 1332](#)
- [“RTE\\_TYPE” on page 1358](#)

## RTE\_VTAM\_APPLID\_PREFIX

This parameter specifies the global VTAM® applid prefix to be used to build the VTAM® applids for products in this runtime environment.

### Required or optional

Optional

### PARMGEN name

RTE\_VTAM\_APPLID\_PREFIX

### Description

Global VTAM® applid prefix to be used when building the VTAM® applids for products in this runtime environment. If none of the products or components you intend to configure in this runtime environment require SNA communications, delete the default value and leave this parameter value blank.

### Related parameters

- [“RTE\\_VTAM\\_NETID” on page 1363](#)

## RTE\_VTAM\_GBL\_MAJOR\_NODE

This parameter specifies the name of the global VTAM® major node in the RKANSAMU member with the same name.

### Required or optional

Required

### PARMGEN name

RTE\_VTAM\_GBL\_MAJOR\_NODE

#### Description

Name of the global VTAM® major node in the RKANSAMU member with the same name. This major node contains all applid definitions required for the runtime environment.

#### Related parameters

None

## RTE\_VTAM\_LU62\_DLOGMOD

This parameter specifies the LU6.2 logmode for this runtime environment.

#### Required or optional

Required for SNA communications

#### PARMGEN name

RTE\_VTAM\_LU62\_DLOGMOD

#### Description

LU6.2 logmode for this runtime environment. The default is CANCTDCS. If none of the products or components you intend to configure in this runtime environment require SNA communications, delete the default value and leave this parameter value blank.

#### Related parameters

- [“RTE\\_VTAM\\_LU62\\_MODETAB” on page 1363](#)

## RTE\_VTAM\_LU62\_MODETAB

This parameter specifies the logmode table name for LU6.2 logmode entries

#### Required or optional

Optional

#### PARMGEN name

RTE\_VTAM\_LU62\_MODETAB

#### Description

Logmode table name for LU6.2 logmode entries. The default is KDSMTAB1. If none of the products or components you intend to configure in this runtime environment require SNA communications, delete the default value and leave this parameter value blank.

This table is assembled into the system library (usually SYS1.VTAMLIB) that contains VTAM® logmode tables.

#### Related parameters

- [“RTE\\_VTAM\\_LU62\\_DLOGMOD” on page 1363](#)
- [“GBL\\_DSN\\_SYS1\\_VTAMLIB” on page 1325](#)

## RTE\_VTAM\_NETID

This parameter specifies the VTAM® network identifier, as defined in the NETID parameter of the VTAMLST startup member.

**Note:** This parameter is valid in both PARMGEN and Configuration Manager; however, its function differs slightly. This topic describes this parameter as it applies to PARMGEN.

#### Required or optional

Required for SNA communications

#### PARMGEN name

RTE\_VTAM\_NETID

### Description

VTAM® network identifier, as defined in the NETID parameter of the VTAMLST startup member (ATCSTRnn). If none of the products or components you intend to configure in this runtime environment require SNA communications, leave this parameter value blank. If system variables are enabled, the value supplied for [“RTE\\_SYSV\\_VTAM\\_NETID” on page 1354](#) is used.

### Related parameters

- [“RTE\\_SYSV\\_VTAM\\_NETID” on page 1354](#)
- [“RTE\\_VTAM\\_APPLID\\_PREFIX” on page 1362](#)
- [“GBL\\_DSN\\_SYS1\\_VTAMLST” on page 1325](#)

## RTE\_X\_HILEV\_SHARING

This parameter specifies the value of the non-VSAM high level qualifier of the base or full runtime environment being shared by this environment.

### Required or optional

Required if RTE\_TYPE is SHARING and RTE\_SHARE is not SMP.

### Location where the parameter values is stored

N/A

### PARMGEN name

RTE\_X\_HILEV\_SHARING

### Description

This parameter specifies the non-VSAM value of the high level qualifier of the runtime environment from which the sharing runtime environment obtains its base library information, if RTE\_TYPE is customized to be SHARING, and the RTE\_SHARE is full or base.

### Related parameters

- [“RTE\\_SHARE” on page 1349](#)
- [“RTE\\_TYPE” on page 1358](#)

## RTE\_X\_KCNDLSSI\_INITPARAM\_FLAG

This parameter determines if the INITPARAM( 'SSPROC=%RTE\_CANSCN\_STC%' ) parameter is generated in the *&rhilev.&rte.RKANSAMU(KCNDLSSI)* OMEGAMON subsystem member.

### Required or optional

Optional

### Location where the parameter value is stored

Value determines if the INITPARAM( 'SSPROC=%RTE\_CANSCN\_STC%' ) parameter should be generated in the *&rhilev.&rte.RKANSAMU(KCNDLSSI)* member.

### Parameter name and syntax

N/A

### Default value

Y

### Permissible values

Y, N

### PARMGEN name

RTE\_X\_KCNDLSSI\_INITPARAM\_FLAG

### Description

This is the flag that generates the INITPARAM( 'SSPROC=%RTE\_CANSCN\_STC%' ) parameter in the KCNDLSSI member in RKANSAMU. A value of Y generates the INITPARAM(). Member KCNDLSSI contains a sample

IEFSSNcc update. In addition to identifying the subsystem to z/OS, this sample causes an automatic start of the subsystem address space.

#### Related parameters

- [“RTE\\_CANSCN\\_STC” on page 1332](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)
- [“RTE\\_X\\_KCNSTR00\\_REFRESH” on page 1366](#)
- [“RTE\\_X\\_KCNSTR00\\_PLEXCOLLECT” on page 1365](#)

## RTE\_X\_KCNSTR00\_PLEXCOLLECT

This parameter specifies whether or not the OMEGAMON subsystem address space may become the collector for this sysplex.

#### Required or optional

Optional

#### Location where the parameter value is stored

KCNSTR00 OMEGAMON subsystem startup member in the *&rhilev.&rte*.RKANPARU library.

#### Parameter name and syntax

PLEXCOLLECT=%RTE\_X\_KCNSTR00\_PLEXCOLLECT%

#### Default value

YES

#### Permissible values

YES, NO

#### PARMGEN name

RTE\_X\_KCNSTR00\_PLEXCOLLECT

#### Description

This parameter specifies whether or not the OMEGAMON subsystem address space may become the collector for this Sysplex. There are two values:

##### YES

This OMEGAMON subsystem may become the Coupling Facility data collector for this sysplex. Only one OMEGAMON subsystem at a time is the collector, but OMEGAMON subsystems with this value may take over collection should the current collector fail or be terminated. YES is the default.

##### NO

This OMEGAMON subsystem may not become the collector for this sysplex. This OMEGAMON subsystem may initiate local collection if the sysplex collector cannot be located.

#### Related parameters

- [“RTE\\_CANSCN\\_STC” on page 1332](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)
- [“RTE\\_X\\_KCNDLSSI\\_INITPARAM\\_FLAG” on page 1364](#)
- [“RTE\\_X\\_KCNSTR00\\_REFRESH” on page 1366](#)

## RTE\_X\_KCNSTR00\_REFRESH

This parameter specifies the interval at which the OMEGAMON subsystem refreshes Coupling Facility data in the address space.

### Required or optional

Optional

### Location where the parameter value is stored

KCNSTR00 OMEGAMON subsystem startup member in the *&rhilev.&rte*.RKANPARU library.

### Parameter name and syntax

REFRESH=%RTE\_X\_KCNSTR00\_REFRESH%

### Default value

60 (in seconds)

### Permissible values

Numeric range 1–300

### PARMGEN name

RTE\_X\_KCNSTR00\_REFRESH

### Description

This parameter shows the refresh interval in effect. The value is in seconds. This interval determines how frequently Coupling Facility data gets refreshed in this address space. All OMEGAMON subsystems that are part of the same XCF group should have the same refresh interval. The smaller this number, the higher the overhead incurred.

### Related parameters

- [“RTE\\_CANSCN\\_STC” on page 1332](#)
- [“RTE\\_KCNDLSSI\\_IEFSSN00\\_FORMAT” on page 1336](#)
- [“RTE\\_KCNSTR00\\_SSID” on page 1337](#)
- [“RTE\\_KCNSTR00\\_XCFGROUP” on page 1338](#)
- [“RTE\\_KCNSTR00\\_WTO” on page 1337](#)
- [“RTE\\_X\\_KCNDLSSI\\_INITPARM\\_FLAG” on page 1364](#)
- [“RTE\\_X\\_KCNSTR00\\_PLEXCOLLECT” on page 1365](#)

## RTE\_X\_OVERRIDE\_EMBEDS\_LIB

This Configuration Manager-only parameter specifies the name of the source library for override embed members.

For more information, see the following topics:

- [“Using override embed members in Configuration Manager” on page 337](#)
- [“RTE\\_X\\_OVERRIDE\\_EMBEDS\\_LIB” on page 298](#)

## RTE\_X\_SECURITY\_DATA\_ABOVE

This parameter determines if the DATA=ABOVE parameter or the DATA=BELOW parameter is generated in the *&rhilev.&rte*.RKANPARU(*KppINNAM*) security member for TMS:Engine to control the allocation of security control blocks.

### Required or optional

Optional

### Location where the parameter value is stored

- *KppINNAM* member in *&rhilev.&rte*.RKANPARU for the TEMS, the agents, and most of the agent CUA interfaces

- KC2NAM $nn$  in  $\&rhilev.\&rte.RKANPARU$  for OMEGAMON II for CICS and OMEGAMON for CICS, where  $nn=00..15$  (one pair per Classic 3270 or CUA started tasks)
- KD2INNAM in  $\&rhilev.\&rte.RKD2PAR$  for OMEGAMON® AI for Db2 (Classic 3270 started task)

**Parameter name and syntax**

DATA=ABOVE|BELOW

**Default value**

Y

**Permissible values**

Y, N

**PARMGEN name**

RTE\_X\_SECURITY\_DATA\_ABOVE

**Description**

Controls where the security control blocks are allocated by the TMS:Engine NAM routines, as follows:

**BELOW**

Control blocks are allocated in 24-bit storage (RMODE 24).

**ABOVE**

Control blocks are allocated in 31-bit storage (RMODE 31).

If RTE\_X\_SECURITY\_DATA\_ABOVE is set to Y, then a DATA=ABOVE parameter is written to the  $KppINNAM$  member in the  $RKANPARU$  library. If RTE\_X\_SECURITY\_DATA\_ABOVE is set to N, then a DATA=BELOW parameter is written out to the  $KppINNAM$  member in the  $RKANPARU$  library.

**Related parameters**

- [“RTE\\_SECURITY\\_USER\\_LOGON” on page 1348](#)
- [“RTE\\_SECURITY\\_FOLD\\_PASSWORD\\_FLAG” on page 287](#)

## RTE\_X\_SECURITY\_EXIT\_LIB

This parameter specifies the name of the global runtime environment library that houses all the OMEGAMON and IBM Tivoli Monitoring-related product security exits (KOBSPDPT OMEGAMON  $KppSUPDI$  exits, TMS:Engine security exits, external security exits, etc.).

**Note:** This parameter is valid in both PARMGEN and Configuration Manager; however, its function differs slightly. This topic describes this parameter as it applies to PARMGEN.

**Required or optional**

Required

**Location where the parameter value is stored**

N/A

**Parameter name and syntax**

N/A

**Default value**

$\&rte\_hilev.\&rte\_name.RKANSAMU$

**Permissible values**

Character string, maximum length 44

**PARMGEN name**

RTE\_X\_SECURITY\_EXIT\_LIB

**Description**

Library where user security exits are located. Overrides the SYSIN DD statement where the user exits may have been customized (if other than the default RKANSAM location). The KppJPSC3 input members to the composite KCIJPSEC security job point the SYSIN DD statement to RKANSAM by default. If you need to make further changes to the sample exit, copy the user exit to the xKANSAMU library, and make your changes accordingly. Then modify the RTE\_X\_SECURITY\_EXIT\_LIB parameter and change the value to RKANSAMU instead.

#### Related parameters

- [“RTE\\_SECURITY\\_USER\\_LOGON” on page 1348](#)
- [“RTE\\_SECURITY\\_FOLD\\_PASSWORD\\_FLAG” on page 287](#)
- [“RTE\\_X\\_SECURITY\\_EXIT\\_LIB” on page 1367](#)
- [“RTE\\_X\\_SECURITY\\_DATA\\_ABOVE” on page 1366](#)
- [“GBL\\_DSN\\_ACF2\\_MACLIBn” on page 1312](#)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KDS\\_TEMS\\_SECURITY\\_KDS\\_VALIDATE” on page 1407](#)

## RTE\_X\_SMS\_MGMTCLAS\_SHARE

This parameter specifies whether the shared data sets are to be managed by SMS and therefore it is necessary to specify the SMS storage class to be used for the allocation of VSAM data sets.

#### Required or optional

Optional

#### Location where the parameter values is stored

N/A

#### PARMGEN name

RTE\_X\_SMS\_MGMTCLAS\_SHARE

#### Description

For shared data sets owned by the RTE\_SHARE set of read-only libraries and managed by SMS, specify the SMS management class to be used for allocating the non-VSAM shared data sets. If your site does not require the SMS MGMTCLAS parameter, leave the parameter value blank.

#### Related parameters

- [“RTE\\_SHARE” on page 1349](#)
- [“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)
- [“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)
- [“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)
- [“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)
- [“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_VSAM\\_VOLUME\\_SHARE” on page 1371](#)

## RTE\_X\_SMS\_PDSE\_FLAG\_SHARE

This parameter specifies whether the shared data sets are to be managed by SMS and therefore it is necessary to specify the SMS storage class to be used for the allocation of VSAM data sets.

#### Required or optional

Optional

#### Location where the parameter values is stored

N/A

#### PARMGEN name

RTE\_X\_SMS\_PDSE\_FLAG\_SHARE

#### Description

For shared data sets owned by the RTE\_SHARE set of read-only libraries and managed by SMS, specify Y to allocate the non-VSAM data sets as PDSE instead of PDS.

#### Related parameters

[“RTE\\_SHARE” on page 1349](#)

[“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)

[“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_STORCLAS\\_SHARE” on page 1371](#)

[“RTE\\_X\\_SMS\\_VSAM\\_VOLUME\\_SHARE” on page 1371](#)

## RTE\_X\_SMS\_STORCLAS\_SHARE

This parameter specifies whether the shared data sets are to be managed by SMS and therefore it is necessary to specify the SMS storage class to be used for the allocation of non-VSAM data sets

#### Required or optional

Optional

#### Location where the parameter values is stored

N/A

#### PARMGEN name

RTE\_X\_SMS\_STORCLAS\_SHARE

#### Description

For shared data sets owned by the RTE\_SHARE set of read-only libraries and managed by SMS, specify the SMS storage class to be used for allocating the non-VSAM shared data sets. If your site does not require the SMS STORCLAS parameter, leave the parameter value blank.

#### Related parameters

[“RTE\\_SHARE” on page 1349](#)

[“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)

[“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_VOLUME\\_SHARE” on page 1371](#)

## RTE\_X\_SMS\_UNIT\_SHARE

This parameter specifies the unit name to be used for allocating the non-VSAM shared data sets if the shared data sets are not to be managed by SMS.

#### Required or optional

Required if the shared data sets are not to be managed by SMS; otherwise optional.

#### Location where the parameter values is stored

N/A

#### PARMGEN name

RTE\_X\_SMS\_UNIT\_SHARE

#### Description

For shared data sets owned by the RTE\_SHARE set of read-only libraries, and using non-SMS-managed RTE\_X\_HILEV\_SHARING HLQ, specify the unit name to be used for allocating the non-VSAM shared data sets. Otherwise, leave the parameter value blank.

#### Related parameters

[“RTE\\_SHARE” on page 1349](#)

[“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)

[“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_STORCLAS\\_SHARE” on page 1371](#)

[“RTE\\_X\\_SMS\\_VSAM\\_VOLUME\\_SHARE” on page 1371](#)

## RTE\_X\_SMS\_VOLUME\_SHARE

This parameter specifies the volume serial numbers to be used for allocating the non-VSAM shared data sets if the shared data sets are not to be managed by SMS.

#### Required or optional

Required if the shared data sets are not to be managed by SMS; otherwise optional.

#### Location where the parameter values is stored

N/A

#### PARMGEN name

RTE\_X\_SMS\_VOLUME\_SHARING

#### Description

For shared data sets owned by the RTE\_SHARE set of read-only libraries and using a non-SMS-managed RTE\_X\_HILEV\_SHARING high-level qualifier, specify the volume serial numbers to be used for allocating the non-VSAM shared data sets. Otherwise, leave the parameter value blank.

#### Related parameters

[“RTE\\_SHARE” on page 1349](#)

[“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)

[“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_STORCLAS\\_SHARE” on page 1371](#)

## RTE\_X\_SMS\_VSAM\_MGMTCLAS\_SHARE

This parameter specifies whether the shared data sets are to be managed by SMS and therefore it is necessary to specify the SMS storage class to be used for the allocation of VSAM data sets.

#### Required or optional

Optional

#### Location where the parameter values is stored

N/A

**PARMGEN name**

RTE\_X\_SMS\_VSAM\_MGMTCLAS\_SHARE

**Description**

For shared data sets owned by the RTE\_SHARE set of read-only libraries and managed by SMS, specify the SMS management class to be used for allocating the VSAM shared data sets. If your site does not require the SMS MGMTCLAS parameter, leave the parameter value blank.

**Related parameters**

- [“RTE\\_SHARE” on page 1349](#)
- [“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)
- [“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)
- [“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)
- [“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)
- [“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)
- [“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_VSAM\\_STORCLAS\\_SHARE” on page 1371](#)
- [“RTE\\_X\\_SMS\\_VSAM\\_VOLUME\\_SHARE” on page 1371](#)

**RTE\_X\_SMS\_VSAM\_STORCLAS\_SHARE**

This parameter specifies whether the shared data sets are to be managed by SMS and therefore it is necessary to specify the SMS storage class to be used for the allocation of VSAM data sets.

**Required or optional**

Optional

**Location where the parameter values is stored**

N/A

**PARMGEN name**

RTE\_X\_SMS\_VSAM\_STORCLASS\_SHARE

**Description**

For shared data sets owned by the RTE\_SHARE set of read-only libraries and managed by SMS, specify the SMS storage class to be used for allocating the VSAM shared data sets. If your site does not require the SMS STORCLAS parameter, leave the parameter value blank.

**Related parameters**

- [“RTE\\_SHARE” on page 1349](#)
- [“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)
- [“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)
- [“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)
- [“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)
- [“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)
- [“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)
- [“RTE\\_X\\_SMS\\_VSAM\\_VOLUME\\_SHARE” on page 1371](#)

**RTE\_X\_SMS\_VSAM\_VOLUME\_SHARE**

This parameter specifies the volume serial numbers to be used for allocating the VSAM shared data sets if the shared data sets are not to be managed by SMS.

**Required or optional**

Required if the shared data sets are not to be managed by SMS; otherwise optional.

**Location where the parameter values is stored**

N/A

**PARMGEN name**

RTE\_X\_SMS\_VSAM\_VOLUME\_SHARE

**Description**

For shared data sets owned by the RTE\_SHARE set of read-only libraries, and using non-SMS-managed RTE\_X\_HILEV\_SHARING HLQ, specify the volume serial numbers to be used for allocating the VSAM shared data sets. Otherwise, leave the parameter value blank.

**Related parameters**

[“RTE\\_SHARE” on page 1349](#)

[“RTE\\_X\\_HILEV\\_SHARING” on page 1364](#)

[“RTE\\_X\\_SMS\\_MGMTCLAS\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_PDSE\\_FLAG\\_SHARE” on page 1368](#)

[“RTE\\_X\\_SMS\\_STORCLAS\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_UNIT\\_SHARE” on page 1369](#)

[“RTE\\_X\\_SMS\\_VOLUME\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_MGMTCLAS\\_SHARE” on page 1370](#)

[“RTE\\_X\\_SMS\\_VSAM\\_STORCLAS\\_SHARE” on page 1371](#)

**RTE\_X\_STC\_INAPF\_INCLUDE\_FLAG**

Generates an uncommented INAPF INCLUDE statement in product started tasks (STCs).

**Required or optional**

Optional

**Default value**

N

**Permissible values**

Y, N

**PARMGEN name**

RTE\_STC\_PREFIX

**Description**

The generated INCLUDE statement imbeds a member in all product STCs which contains APF-authorization commands for libraries concatenated in the STC STEPLIB and RKANMODL DDNAMEs. This member also contains the VARY activate command pointing to the %RTE\_VTAM\_GBL\_MAJOR\_NODE% VTAM major node.

**Related parameters**

- [“RTE\\_STC\\_PREFIX” on page 1352](#)
- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)

**Tivoli Enterprise Monitoring Server (KDS) parameters**

The Tivoli Enterprise Monitoring Server parameters provide configuration settings for hub and remote monitoring servers on z/OS®.

The Tivoli Enterprise Monitoring Server parameters are explained in this section.

**KDS\_AUDIT\_ITM\_DOMAIN**

This parameter specifies an identifier that may be used to associate audit records.

**Required or optional**

Optional

**Location where the parameter value is stored**

The value you specify on the KDS\_AUDIT\_ITM\_DOMAIN parameter generates an ITM\_DOMAIN parameter in KDSENV.

**PARMGEN name**

KDS\_AUDIT\_ITM\_DOMAIN

**Description**

Audit domain name

This field is used to specify an identifier that may be used to associate audit records. It is suited for commonly identifying agents that are associated with each other. An example use may be for sorting records by a particular customer.

This field will also be used to create unique namespaces for RBAC. The value you specify generates an ITM\_DOMAIN parameter in KDSENV.

**Related parameters**

None

## KDS\_AUDIT\_MAX\_HIST

This parameter specifies the maximum number of entries kept in the in-memory cache for direct queries.

**Required or optional**

Optional

**Location where the parameter value is stored**

AUDIT\_MAX\_HIST parameter in the RKANPARU data set, member KDSENV.

**PARMGEN name**

KDS\_AUDIT\_MAX\_HIST

**Description**

The maximum number of records kept in short term memory for direct queries.

**Related parameters**

None

## KDS\_AUDIT\_TRACE

This parameter is used to enable or disable auditing collection in SMF.

**Required or optional**

Optional

**Location where the parameter value is stored**

AUDIT\_TRACE parameter in the RKANPARU data set, member KDSENV.

**PARMGEN name**

KDS\_AUDIT\_TRACE

**Description**

This indicates the trace level to pass messages. Message trace levels (from low to high) are X (Disabled), M (Minimum), B (Basic), and D(Detail). Higher levels imply all lower levels.

**Related parameters**

KDS\_AUDIT\_MAX\_HIST

KDS\_AUDIT\_ITM\_DOMAIN

## KDS\_HUB\_TCP\_HOST

This parameter specifies the TCP/IP hostname or the IP address of the system where the hub monitoring server is installed.

### Description

The TCP/IP hostname or the IP address of the system where the hub monitoring server is installed. This parameter applies only to a remote monitoring server that uses TCP/IP for communication. The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use TCP/IP for communication with the hub.

### Default value

None

### Permissible values

Character string, maximum length 38

### Related parameters

- [“RTE\\_TCP\\_HOST” on page 288](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_HUB\_TCP\_PIPE\_PORT\_NUM

This parameter contains the well-known port for the hub monitoring server for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4), specified during configuration of a remote monitoring server.

### Description

Well-known port for the hub monitoring server for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4), specified during configuration of a remote monitoring server.

The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM” on page 1413](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use the IP.PIPE protocol for communications with the hub.

### Default value

1918

### Permissible values

1 - 65535

### Related parameters

- [“KDS\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM” on page 1413](#)

## KDS\_HUB\_TCP\_PIPE6\_PORT\_NUM

This parameter contains the well-known port for the hub monitoring server for the IP6.PIPE communication protocol (the TCP/IP protocol that supports IPv6), specified during configuration of a remote monitoring server.

### Description

Well-known port for the hub monitoring server for the IP6.PIPE communication protocol (the TCP/IP protocol that supports IPv6), specified during configuration of a remote monitoring server.

The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_PIPE6\\_PORT\\_NUM” on page 1414](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use the IP6.PIPE protocol for communications with the hub.

**Default value**

1918

**Permissible values**

1 - 65535

**Related parameters**

- [“KDS\\_TEMS\\_TCP\\_PIPE6\\_PORT\\_NUM” on page 1414](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_HUB\_TCP\_PIPE6S\_PORT\_NUM

This parameter contains the well-known port for the hub monitoring server for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6), specified during configuration of a remote monitoring server.

**Description**

Well-known port for the hub monitoring server for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6), specified during configuration of a remote monitoring server.

The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM” on page 1414](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use the IP6.SPIPE protocol for communications with the hub.

**Default value**

3660

**Permissible values**

1 - 65535

**Related parameters**

- [“KDS\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM” on page 1414](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_HUB\_TCP\_PIPES\_PORT\_NUM

This parameter contains the well-known port for the hub monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv4), specified during configuration of a remote monitoring server

**Description**

Well-known port for the hub monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv4), specified during configuration of a remote monitoring server.

The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_PIPES\\_PORT\\_NUM” on page 1415](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use the IP.SPIPE protocol for communications with the hub.

**Default value**

3660

**Permissible values**

1 - 65535

**Related parameters**

- [“KDS\\_TEMS\\_TCP\\_PIPES\\_PORT\\_NUM” on page 1415](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_HUB\_TCP\_UDP\_PORT\_NUM

This parameter contains the well-known port for the hub monitoring server for the IP.UDP communication protocol (the TCP/IP protocol that uses the packet-based, connectionless User Datagram Protocol under IPv4), specified during configuration of a remote monitoring server.

**Description**

Well-known port for the hub monitoring server for the IP.UDP communication protocol (the TCP/IP protocol that uses the packet-based, connectionless User Datagram Protocol under IPv4), specified during configuration of a remote monitoring server.

The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM” on page 1416](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use the IP.UDP protocol for communications with the hub.

**Default value**

1918

**Permissible values**

1 - 65535

**Related parameters**

- [“KDS\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM” on page 1416](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_HUB\_TCP\_UDP6\_PORT\_NUM

This parameter specifies the well-known port for the hub monitoring server for the IP6.UDP communication protocol (the packet-based, connectionless User Datagram Protocol that supports IPv6), specified during configuration of a remote monitoring server.

**Description**

Well-known port for the hub monitoring server for the IP6.UDP communication protocol (the packet-based, connectionless User Datagram Protocol that supports IPv6), specified during configuration of a remote monitoring server.

The value specified for this parameter must match the value set for the [“KDS\\_TEMS\\_TCP\\_UDP6\\_PORT\\_NUM” on page 1417](#) parameter in the runtime environment where the hub is configured, or the value set for an equivalent parameter of a distributed hub.

This parameter is required for remote Tivoli Enterprise Monitoring Servers that use the IP6.UDP protocol for communications with the hub.

**Default value**

1918

**Permissible values**

1 - 65535

**Related parameters**

- [“KDS\\_TEMS\\_TCP\\_UDP6\\_PORT\\_NUM” on page 1417](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

**KDS\_HUB\_TEMS\_HA\_TYPE**

This parameter specifies whether the hub with which a remote Tivoli Enterprise Monitoring Server communicates is a high-availability hub.

**Required or optional**

Required for a remote Tivoli Enterprise Monitoring Server

**Location where the parameter value is stored**

The parameter value is not stored, but is used for internal processing.

**PARMGEN name**

KDS\_HUB\_TEMS\_HA\_TYPE

**Description**

Specifies whether the hub with which a remote Tivoli Enterprise Monitoring Server communicates is a high-availability hub.

**Related parameters**

- [“KDS\\_TEMS\\_HA\\_TYPE” on page 1402](#)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

**KDS\_HUB\_TEMS\_NAME\_NODEID**

This parameter identifies the name of the hub server to which the remote server connects.

**Description**

This is a case-sensitive field used to identify the name of the hub monitoring server to which this remote server connects. This name is the domain name of a non-z/OS hub server or the CMS\_NODEID parameter value of the z/OS hub server. The value of this field is case-sensitive for both z/OS and non-z/OS server names. This parameter is applicable to a remote monitoring server only.

This parameter is required for a remote Tivoli Enterprise Monitoring Server.

**Related parameters**

- [“KDS\\_TEMS\\_HA\\_TYPE” on page 1402](#)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

**KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER**

This parameter specifies the VTAM® applid for the global location broker of the hub monitoring server.

**Required or optional**

Required for remote Tivoli Enterprise Monitoring Servers that use the SNA.PIPE protocol for communications with the hub

#### Location where the parameter value is stored

- KDCSSITE member of the *rhilev.rte*.RKANPARU library for the runtime environment of the remote monitoring server
- XCF\_PLEXGROUP parameter in the KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the remote monitoring server

#### PARMGEN name

KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER

#### Description

VTAM® applid for the global location broker of the hub monitoring server. You can find this applid in the VTAM® major node definition in SYS1.VTAMLST for the hub.

#### Related parameters

- [“KDS\\_TEMS\\_VTAM\\_APPL\\_GLB\\_BROKER” on page 1418](#)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

### KDS\_HUB\_VTAM\_NETID

This parameter specifies the VTAM® network identifier associated with the hub monitoring server.

#### Required or optional

Required for remote Tivoli Enterprise Monitoring Servers that use the SNA.PIPE protocol for communications with the hub

#### Location where the parameter value is stored

KDCSSITE member of the *rhilev.rte*.RKANPARU library for the runtime environment of the remote monitoring server

#### PARMGEN name

KDS\_HUB\_VTAM\_NETID

#### Description

VTAM® network identifier associated with the hub monitoring server.

#### Related parameters

- [“KDS\\_TEMS\\_VTAM\\_NETID” on page 1420](#)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

### KDS\_KMS\_SDA

This parameter indicates whether the server supports self-describing agents.

#### Required or optional

Required if you want to enable the Self-Describing Agent (SDA) Function.

#### Location where the parameter value is stored

The KMS\_SDA parameter in the xKANPARU data set, member KDSENV.

#### PARMGEN name

KDS\_KMS\_SDA

#### Description

This field indicates whether the server supports and runs the self-description feature.

#### Related parameters

- [“GBL\\_HFS\\_JAVA\\_DIRn” on page 1328](#) (typically in WCONFIG(\$GBL\$USR))
- [“GBL\\_DSN\\_SYS1\\_SBPXEXEC” on page 1324](#) (typically in WCONFIG(\$GBL\$USR))
- [“RTE\\_USS\\_RTEDIR” on page 1360](#)

- [“RTE\\_USS\\_MKDIR\\_MODE” on page 1359](#)
- [“KDS\\_KMS\\_SDA\\_NO\\_GRANULAR” on page 1379](#) (post V6.3.0 only)
- [“KDS\\_TEMA\\_SDA” on page 1394](#)
- [“Kpp\\_AGT\\_TEMA\\_SDA” on page 1277](#) (per *Kpp* agent exploiting SDA)

## KDS\_KMS\_SDA\_NO\_GRANULAR

This parameter indicates whether to retain the current behavior of no granular controls for self-describing agents during an upgrade from V6.2.3 to V6.3.0 of a hub monitoring server with self-describing agent feature enabled.

### Required or optional

Optional

### Location where the parameter values is stored

The parameter value is not stored, but is used for internal processing.

### PARMGEN name

KDS\_KMS\_SDA\_NO\_GRANULAR

### Description

Tivoli Management Services on z/OS version 6.3 introduced granular control of self-describing agent data. Granular control blocks installation of all self-describing agent application data until the Tivoli administrative commands (tacmd) Command Line Interface (CLI) is used to either specify the agents and versions to be installed, or to enable installation of all products and versions. On a new V6.3 z/OS hub monitoring server, the granular control feature is disabled by default, so if SDA is enabled, all SDA data is installed. To enable granular control, you must use the tacmd CLI. If you are upgrading from Tivoli Management Services V6.2.3 to V6.3.0, and SDA was already enabled on the hub monitoring server, the KDS\_KMS\_SDA\_NO\_GRANULAR parameter can be set to Y to retain the current behavior (all products and versions updated) or to N to enable granular control. Then you must use the tacmd CLI to specify what data to install.

### Related parameters

None

## KDS\_KMS\_SECURITY\_COMPATMD

This parameter allows customization of the KMS\_SECURITY\_COMPATIBILITY\_MODE parameter in a runtime environment's RKANPARU(KDSENV) member. Applicable only in Tivoli® Management Services V6.3.0 and higher.

### Required or optional

Optional

### Location where the parameter value is stored

KDSENV member of the &rhilev.&rte.RKANPARU library.

### Parameter name and syntax (See Description)

KMS\_SECURITY\_COMPATIBILITY\_MODE=&value

### Default value

Y

### Permissible values

Y, N

### Description

By default, command requests (Take Action commands, situation actions, workflow policy actions, and so forth) are required to include an encrypted security token. To assist in migration, a security compatibility mode is provided. If compatibility mode is enabled (KMS\_SECURITY\_COMPATIBILITY\_MODE=Y), the monitoring server generates a default security token if the component does not issue one and checking for encrypted command tokens is automatically disabled.

On z/OS®, compatibility mode is enabled by default. If compatibility mode is disabled, Integrated Cryptographic Service Facility encryption must be enabled for the component (monitoring server or monitoring agent) issuing the request.

- The ICSF started task must be running.
- The ICSF load library must be concatenated in the RKANMODL DD statement in the started task JCL of the z/OS® monitoring server and z/OS® monitoring agents.
- The KAES256 member that contains the encrypted private key must be present in the RKANPARU data set.

#### Related parameters

[“GBL\\_DSN\\_CSF\\_SCSFMODE0” on page 280](#)

[“RTE\\_SECURITY\\_KAES256\\_KEY” on page 1348](#)

## KDS\_MIG\_TAPE\_HILEV

This parameter specifies the high-level qualifier (with DISP=NEW) for the backup VSAM clusters on tape.

#### Required or optional

Required for migrating customized objects (for example, modified situations, templates, and managed objects) from a previous version to a later version of the Tivoli Enterprise Monitoring Server

#### Location where the parameter value is stored

KDSDMG4B member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the monitoring server

#### PARMGEN name

KDS\_MIG\_TAPE\_HILEV

#### Description

High-level qualifier (with DISP=NEW) for the backup VSAM clusters on tape.

#### Related parameters

- [“KDS\\_MIG\\_TAPE\\_UNIT” on page 1380](#)
- [“KDS\\_MIG\\_TAPE\\_VOL” on page 1381](#)
- [“KDS\\_MIG\\_VSAM\\_HILEV” on page 1381](#)

## KDS\_MIG\_TAPE\_UNIT

This parameter specifies the unit device name for the backup VSAM clusters on tape.

#### Required or optional

Optional

#### Location where the parameter value is stored

KDSDMG4B member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the monitoring server

#### PARMGEN name

KDS\_MIG\_TAPE\_UNIT

#### Description

Unit device name for the backup VSAM clusters on tape. Leave this field blank if your environment does not require the unit name.

#### Related parameters

- [“KDS\\_MIG\\_TAPE\\_VOL” on page 1381](#)

## KDS\_MIG\_TAPE\_VOL

This parameter specifies the volume serial for the backup VSAM clusters on tape.

### Required or optional

Optional

### Location where the parameter value is stored

KDSDMG4B member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the monitoring server

### PARMGEN name

KDS\_MIG\_TAPE\_VOL

### Description

Volume serial for the backup VSAM clusters on tape. Leave this field blank if your environment does not require the volume serial number.

### Related parameters

- [“KDS\\_MIG\\_TAPE\\_UNIT” on page 1380](#)

## KDS\_MIG\_VSAM\_HILEV

This parameter specifies complete high-level qualifier (*rvhilev.rte*) of the VSAM runtime libraries from which you want to migrate customized objects.

### Required or optional

Required for migrating customized objects (for example, modified situations, templates, and managed objects) from a previous version to a later version of the Tivoli Enterprise Monitoring Server

### Location where the parameter value is stored

KDSDMG4B member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the monitoring server

### PARMGEN name

KDS\_MIG\_VSAM\_HILEV

### Description

Complete high-level qualifier (*rvhilev.rte*) of the VSAM runtime libraries from which you want to migrate customized objects.

### Related parameters

- [“KDS\\_MIG\\_TAPE\\_HILEV” on page 1380](#)

## KDS\_PA

This parameter indicates the beginning or end of the partition reference table for address translation.

### Required or optional

Required for broker partitioning

### Location where the parameter value is stored

KDCPART member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

### Batch parameter name

KDS\_PA

### PARMGEN name

KDS\_PA

### Description

Indicates the beginning or end of the partition reference table for address translation. The partition table contains labels and associated socket addresses provided by the firewall administrator. This parameter is for IBM® internal use only.

#### Related parameters

- [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#)
- [“KDS\\_PA\\_PARTITION\\_ADDRESS” on page 1382](#)
- [“KDS\\_PA\\_PARTITION\\_NAME” on page 1382](#)
- [“KDS\\_TEMS\\_PARTITION\\_NAME” on page 1406](#)

## KDS\_PA\_PARTITION\_ADDRESS

This parameter contains the IP address or SNA reference assigned to the Tivoli Enterprise Monitoring Server from a location on the other side of the firewall.

#### Required or optional

Required for broker partitioning

#### Location where the parameter value is stored

KDCPART member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### PARMGEN name

KDS\_PA\_PARTITION\_ADDRESS

#### Description

IP address or SNA reference assigned to the Tivoli Enterprise Monitoring Server from a location on the other side of the firewall. The partition address that you supply is added to the partition table identified by the [“KDS\\_PA” on page 1381](#) parameter. The partition table contains labels and associated socket addresses provided by the firewall administrator.

If the value of the [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#) parameter is Y, this parameter must have a value assigned to it, or the Tivoli Enterprise Monitoring Server and its communications will fail.

#### Related parameters

- [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#)
- [“KDS\\_PA” on page 1381](#)
- [“KDS\\_PA\\_PARTITION\\_NAME” on page 1382](#)

## KDS\_PA\_PARTITION\_NAME

This parameter contains the partition name (label) that identifies the location of the Tivoli Enterprise Monitoring Server relative to the firewall or firewalls used for address translation.

#### Required or optional

Required for broker partitioning

#### Location where the parameter value is stored

KDCPART member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### PARMGEN name

KDS\_PA\_PARTITION\_NAME

#### Description

Partition name (label) that identifies the location of the Tivoli Enterprise Monitoring Server relative to the firewall or firewalls used for address translation. The partition name that you supply is added to the partition table identified by the [“KDS\\_PA” on page 1381](#) parameter. The partition table contains labels and associated socket addresses provided by the firewall administrator. The label is used outside the firewall to establish monitoring server connections. The well-known port for the hub monitoring server must be authorized by the firewall administrator. For the IP\*.PIPE protocols, no additional ports be authorized.

If the value of the [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#) parameter is Y, this parameter must have a value assigned to it, or the Tivoli Enterprise Monitoring Server and its communications will fail.

### Related parameters

- [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#)
- [“KDS\\_PA” on page 1381](#)
- [“KDS\\_PA\\_PARTITION\\_ADDRESS” on page 1382](#)

## KDS\_PA\_ROW

This parameter indicates the beginning or end of a row in the partition reference table for address translation.

### Required or optional

Required for broker partitioning

### Location where the parameter value is stored

KDCPART member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

### Batch parameter name

KDS\_PA\_ROW

### PARMGEN name

KDS\_PA\_ROW

### Description

Indicates the beginning or end of a row in the partition reference table for address translation. This parameter is for IBM® internal use only.

### Related parameters

- [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#)
- [“KDS\\_PA” on page 1381](#)

## KDS\_PD\_CYL

This parameter contains the space allocation for the persistent data store libraries and for overhead information such as the product dictionary, table records, index records, and buffers to hold overflow data when the libraries are full.

### Required or optional

Optional

### Location where the parameter value is stored

KPDAL member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

### PARMGEN name

KDS\_PD\_CYL

### Description

Space allocation for the persistent data store libraries and for overhead information such as the product dictionary, table records, index records, and buffers to hold overflow data when the libraries are full. By default, the Tivoli Enterprise Portal Server retrieves historical data for reports once every 24 hours. Unless the Tivoli Enterprise Portal Server KFW\_REPORT\_TERM\_BREAK\_POINT parameter is set to a value other than the default, allocate enough space ( $n$  data sets) for the persistent data store to permit  $n-1$  data sets to hold 24 hours of data.

### Related parameters

None

## KDS\_PDS2\_ACTIVATION

Activation switch for PDS V2 for the monitoring server

### Description

This parameter indicates whether to activate persistent data store V2 (PDS V2) support for the Tivoli Enterprise Monitoring Server (monitoring server).

**Y**

If global switch RTE\_PDS2\_ACTIVATION parameter is set to Y, PDS V2 will be used for the monitoring server; otherwise, this parameter is ignored.

**N**

If global switch RTE\_PDS2\_ACTIVATION parameter is set to Y, you can switch off the PDS V2 feature for the monitoring server by setting this parameter value to N. In this case, the original persistent data store (PDS V1) will be used for the monitoring server.

### Default value

Y

### Permissible values

Y, N

### Related parameters

RTE\_PDS2\_ACTIVATION

Kpp\_PDS2\_ACTIVATION

## KDS\_PDS2\_FILE\_COUNT

Number of PDS V2 data sets for the monitoring server

### Description

This value specifies the default number of data sets that will be allocated for the persistent data store V2 (PDS V2) for the Tivoli Enterprise Monitoring Server (monitoring server).

### Default value

6

### Minimum

2

### Maximum

36

## KDS\_PDS2\_SEC\_SIZE

Secondary space allocation for PDS V2 data sets for the monitoring server

### Description

The number of secondary cylinders or megabytes that will be used to allocate the persistent data store V2 (PDS V2) data sets for the Tivoli Enterprise Monitoring Server (monitoring server). This value represents the number of cylinders or megabytes allocated for each data set. The allocation unit for PDS V2 is specified in parameter RTE\_PDS2\_ALLOC\_TYPE.

### blank

The number of secondary cylinders or megabytes will be automatically calculated, using 10% of the KDS\_PDS2\_STORE\_SIZE parameter value divided by the number of files set in KDS\_PDS2\_FILE\_COUNT.

**0**

Only the primary allocation size will be used.

### value

Number of secondary cylinders or megabytes that will be used for each PDS V2 data set as a secondary allocation size.

**Default value**

None

**Minimum**

0

**Maximum**

9999

**Related parameters**

RTE\_PDS2\_ALLOC\_TYPE

**KDS\_PDS2\_STORE\_SIZE**

Primary space allocation for PDS V2 data sets for the monitoring server

**Description**

The number of primary cylinders or megabytes that will be used to allocate the persistent data store V2 (PDS V2) data sets for the Tivoli Enterprise Monitoring Server (monitoring server). To calculate the primary cylinders or megabytes for a single data set, the KDS\_PDS2\_STORE\_SIZE value is divided by the KDS\_PDS2\_FILE\_COUNT value. The allocation unit for PDS V2 is specified in parameter RTE\_PDS2\_ALLOC\_TYPE.

**Default value**

agent specific

**Minimum**

1

**Maximum**

9999

**Related parameters**

RTE\_PDS2\_ALLOC\_TYPE

**KDS\_PDS2\_VOLUME**

Volume for PDS V2 data set allocation for the monitoring server

**Description**

This parameter specifies the volume serial number for persistent data store V2 (PDS V2) data set allocation for the monitoring server.

**Default value**

%RTE\_PDS2\_VOLUME%

**Permissible values**

Character string, maximum length 6

**KDS\_PH**

This parameter indicates the beginning or end of the table that lists the hub monitoring servers that are eligible for SOAP server access.

**Required or optional**

Required for a hub Tivoli Enterprise Monitoring Server

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte.RKANPARU* library for the runtime environment of the hub

**Batch parameter name**

KDS\_PH

**PARMGEN name**

KDS\_PH

**Description**

Indicates the beginning or end of the table that lists the hub monitoring servers that are eligible for SOAP server access. This parameter is for IBM® internal use only.

**Related parameters**

- [“KDS\\_TEMS\\_SOAP\\_SERVER\\_FLAG” on page 1408](#)
- [“KDS\\_PH\\_ROW” on page 1386](#)

**KDS\_PH\_ROW**

This parameter indicates the beginning or end of a single hub monitoring server entry in the SOAP server list.

**Required or optional**

Required for a hub Tivoli Enterprise Monitoring Server

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

**Batch parameter name**

KDS\_PH\_ROW

**PARMGEN name**

KDS\_PH\_ROW

**Description**

Indicates the beginning or end of a single hub monitoring server entry in the SOAP server list. This parameter is for IBM® internal use only.

**Related parameters**

- [“KDS\\_TEMS\\_SOAP\\_SERVER\\_FLAG” on page 1408](#)
- [“KDS\\_PH” on page 1385](#)

**KDS\_PH\_TEMS\_ALIAS\_NAME**

This parameter contains the TEMS name (node ID) that identifies a non-local hub monitoring server to the SOAP server. For best results, accept the default name.

**Required or optional**

Required for a non-local hub Tivoli Enterprise Monitoring Server

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the local monitoring server

Example:

```
Aliasrte_name:CMS/Alias
```

**PARMGEN name**

KDS\_PH\_TEMS\_ALIAS\_NAME

**Description**

TEMS name (node ID) that identifies a non-local hub monitoring server to the SOAP server. For best results, accept the default name.

**Related parameters**

- [“RTE\\_TEMS\\_NAME\\_NODEID” on page 1355](#)
- [“KDS\\_TEMS\\_SOAP\\_SERVER\\_FLAG” on page 1408](#)

## KDS\_PH\_TEMS\_COMM\_PROTOCOL1

This parameter contains the communication protocol to be used by the SOAP server.

### Required or optional

Required for a hub Tivoli Enterprise Monitoring Server

### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub  
Example:

```
CMS_NameIP.PIPE:SYS1[1918]/CMS_Name
```

### PARMGEN name

KDS\_PH\_TEMS\_COMM\_PROTOCOL1

### Description

Communication protocol to be used by the SOAP server. The value of this parameter is included in the entry for this hub in the KSHXHUBS member of the *rhilev.rte*.RKANPARU library.

### Related parameters

- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)

## KDS\_PH\_TEMS\_KSH\_SECURE

This parameter defines the security status of the SOAP server.

### Required or optional

Required for a hub Tivoli Enterprise Monitoring Server

### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

### PARMGEN name

KDS\_PH\_TEMS\_KSH\_SECURE

### Description

Security status of the SOAP server. If no user access list is defined, the value of this parameter is set to N and the SOAP server honors requests from any user ID that passes logon validation. If user IDs with query or update access are listed, the parameter value is set to Y. If user IDs are listed and given global security access, the parameter value is reset to N.

### Related parameters

- [“KDS\\_PU\\_TEMS\\_USER\\_QUERY” on page 1393](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_UPDATE” on page 1393](#)

## KDS\_PH\_TEMS\_RTE

This parameter contains the name of the runtime environment where the hub is configured.

### Required or optional

Required for the hub Tivoli Enterprise Monitoring Server SOAP server

### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub  
Example:

```
Service_Namerte_name:CMS/Service_Name
```

### PARMGEN name

KDS\_PH\_TEMS\_RTE

**Description**

Name of the runtime environment where the hub is configured. Accept the default value.

**Related parameters**

- [“RTE\\_NAME” on page 1340](#)

**KDS\_PH\_TEMS\_SYSV\_FLAG**

This parameter determines whether system variables are to be enabled for the SOAP server.

**Required or optional**

Required

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte.RKANPARU* library for the runtime environment of the hub

**Batch parameter name**

KDS\_PH\_CMS\_SYSV

**PARMGEN name**

KDS\_PH\_TEMS\_SYSV\_FLAG

**Description**

Determines whether system variables are to be enabled for the SOAP server. The value of this parameter is always set to match the value of the [“RTE\\_SYSV\\_SYSVAR\\_FLAG” on page 1353](#) parameter. If system variables are enabled for the runtime environment, the server list that is maintained in the KSHXHUBS member of the *rhilev.rte.RKANPARU* library is restricted to hub monitoring servers that support z/OS® system symbols.

**Related parameters**

- [“RTE\\_SYSV\\_SYSVAR\\_FLAG” on page 1353](#)

**KDS\_PHnn\_TEMS\_TCP\_HOST**

This parameter contains the hostname or IP address of the SOAP server.

**Description**

This parameter contains the TCP/IP hostname or IP address of the SOAP server. For best results, accept the default value.

This parameter is required for a hub monitoring server if Protocol 1 (the highest-priority protocol) for the SOAP server is one of the TCP/IP protocols.

If this is a high-availability hub monitoring server, this parameter must be set to the dynamic virtual IP address (DVIPA).

**Default value**

%SYSIPHOSTNAME%

**Permissible values**

Character string, maximum length 39

**Related parameters**

- [“KDS\\_PH\\_TEMS\\_COMM\\_PROTOCOL1” on page 1387](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)

**KDS\_PH\_TEMS\_TCP\_PORT\_NUM**

This parameter defines the TCP port number of the SOAP server.

**Required or optional**

Required for a hub Tivoli Enterprise Monitoring Server if Protocol 1 (the highest-priority protocol) for the SOAP server is one of the TCP/IP protocols

#### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub  
Example:

```
CMS_NameIP.PIPE:SYS1[1918]/CMS_Name
```

#### PARMGEN name

KDS\_PH\_TEMS\_TCP\_PORT\_NUM

#### Description

TCP port number of the SOAP server. For best results, accept the default value.

#### Related parameters

- [“KDS\\_PH\\_TEMS\\_COMM\\_PROTOCOL1” on page 1387](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_PH\_TEMS\_USER\_QUERY

This parameter defines the user ID with query access to the SOAP server.

#### Required or optional

Optional

#### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

#### PARMGEN name

KDS\_PH\_TEMS\_USER\_QUERY

#### Description

User ID with query access to the SOAP server. To add more users, use the **KDS\_PU\_TEMS\_USER\_\*** parameters.

#### Related parameters

- [“KDS\\_PU\\_TEMS\\_USER\\_QUERY” on page 1393](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_ID” on page 1393](#)

## KDS\_PH\_TEMS\_USER\_UPDATE

This parameter defines the user ID with update access to the SOAP server.

#### Required or optional

Optional

#### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

#### PARMGEN name

KDS\_PH\_TEMS\_USER\_UPDATE

#### Description

User ID with update access to the SOAP server. To add more users, use the **KDS\_PU\_TEMS\_USER\_\*** parameters.

#### Related parameters

- [“KDS\\_PU\\_TEMS\\_USER\\_UPDATE” on page 1393](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_ID” on page 1393](#)

### KDS\_PH\_TEMS\_VTAM\_APPL\_GLB\_BROKER

This parameter defines the VTAM® applid for the global location broker of the SOAP server.

#### Required or optional

Required for a hub Tivoli Enterprise Monitoring Server if Protocol 1 (the highest-priority protocol) for the SOAP server is SNA

#### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

#### PARMGEN name

KDS\_PH\_TEMS\_VTAM\_APPL\_GLB\_BROKER

#### Description

VTAM® applid for the global location broker of the SOAP server.

#### Related parameters

- [“KDS\\_PH\\_TEMS\\_COMM\\_PROTOCOL1” on page 1387](#)
- [“KDS\\_TEMS\\_VTAM\\_APPL\\_GLB\\_BROKER” on page 1418](#)

### KDS\_PH\_TEMS\_VTAM\_LU62\_DLOGMOD

This parameter defines the LU6.2 logmode entry required by the SOAP server for SNA communications.

#### Required or optional

Required for a hub Tivoli Enterprise Monitoring Server if Protocol 1 (the highest-priority protocol) for the SOAP server is SNA

#### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

#### PARMGEN name

KDS\_PH\_TEMS\_VTAM\_LU62\_DLOGMOD

#### Description

LU6.2 logmode entry required by the SOAP server for SNA communications.

#### Related parameters

- [“KDS\\_PH\\_TEMS\\_COMM\\_PROTOCOL1” on page 1387](#)
- [“KDS\\_TEMS\\_VTAM\\_LU62\\_DLOGMOD” on page 1419](#)

### KDS\_PH\_TEMS\_VTAM\_NETID

This parameter defines the VTAM® network identifier for the SOAP server.

#### Required or optional

Required for a hub Tivoli Enterprise Monitoring Server if Protocol 1 (the highest-priority protocol) for the SOAP server is SNA

#### Location where the parameter value is stored

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

#### PARMGEN name

KDS\_PH\_TEMS\_VTAM\_NETID

**Description**

VTAM® network identifier for the SOAP server.

**Related parameters**

- [“KDS\\_PH\\_TEMS\\_COMM\\_PROTOCOL1” on page 1387](#)
- [“KDS\\_TEMS\\_VTAM\\_NETID” on page 1420](#)

**KDS\_PPI\_RECEIVER**

This parameter specifies the name of the IBM Z® NetView PPI receiver that is to receive Take Action commands.

**Required or optional**

Optional

**Location where the parameter value is stored**

KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

**Parameter name**

KGLHC\_PPI\_RECEIVER

**Default value**

CNMPCMDR

**Permissible values**

Character string, maximum length 8

**PARMGEN name**

KDS\_PPI\_RECEIVER

**Description**

Name of the IBM Z® NetView PPI receiver that is to receive Take Action commands. This name must match the receiver name specified on the NetView APSERV command.

The value must be a 1- through 8-character unique identifier for the receiver program. It can contain alphabetic characters A-Z and a-z, numeric characters 0-9, and the following special characters: dollar sign (\$), percent sign (%), ampersand (&), at sign (@), and number sign (#). This value must match the value specified in the NetView DSIPARM initialization member, CNMSTYLE.

If a value is specified for this parameter and either the specified name is incorrect or the receiver is not active on NetView, the command fails. If no value is specified, default (MGCR) command routing is performed.

For complete instructions, see [“Configuring IBM Z NetView authorization of z/OS commands” on page 544](#).

**Related parameters**

- [“GBL\\_DSN\\_NETVIEW\\_CNMLINK” on page 1321](#)
- [“KDS\\_PPI\\_SENDER” on page 1391](#)

**KDS\_PPI\_SENDER**

This parameter specifies the name of the IBM Z® NetView PPI sender.

**Required or optional**

Optional

**Location where the parameter value is stored**

KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

**Parameter name**

KGLHC\_PPI\_SENDER

**Default value**

None

**Permissible values**

Character string, maximum length 8

**PARMGEN name**

KDS\_PPI\_SENDER

**Description**

Name of the IBM Z® NetView PPI sender. This name is used in logging the command and command response in the NetView log and therefore must not conflict with any NetView domain name. This parameter has no default value in the KDSENV member, but the internal default is the value of the [“KDS\\_PPI\\_RECEIVER” on page 1391](#) parameter.

For complete instructions, see [“Configuring IBM Z NetView authorization of z/OS commands” on page 544](#).

**Related parameters**

- [“GBL\\_DSN\\_NETVIEW\\_CNMLINK” on page 1321](#)
- [“KDS\\_PPI\\_RECEIVER” on page 1391](#)

## KDS\_PU

This parameter indicates the beginning or end of the SOAP server user access table.

**Required or optional**

Optional

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

**Batch parameter name**

KDS\_PU

**PARMGEN name**

KDS\_PU

**Description**

Indicates the beginning or end of the SOAP server user access table. This parameter is for IBM® internal use only.

**Related parameters**

- [“KDS\\_PH\\_TEMS\\_KSH\\_SECURE” on page 1387](#)

## KDS\_PU\_ROW

This parameter indicates the beginning or end of a single user access record in the SOAP server user access table.

**Required or optional**

Optional

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

**Batch parameter name**

KDS\_PU\_ROW

**PARMGEN name**

KDS\_PU\_ROW

**Description**

Indicates the beginning or end of a single user access record in the SOAP server user access table. This parameter is for IBM® internal use only.

**Related parameters**

- [“KDS\\_PH\\_TEMS\\_KSH\\_SECURE” on page 1387](#)
- [“KDS\\_PU” on page 1392](#)

**KDS\_PU\_TEMS\_USER\_ID**

This parameter contains the user ID defined to have access to the SOAP server.

**Required or optional**

Optional

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

**PARMGEN name**

KDS\_PU\_TEMS\_USER\_ID

**Description**

User ID defined to have access to the SOAP server. A user ID can have both query and update access.

**Related parameters**

- [“KDS\\_PU\\_TEMS\\_USER\\_QUERY” on page 1393](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_UPDATE” on page 1393](#)

**KDS\_PU\_TEMS\_USER\_QUERY**

This parameter determines query access of a user ID to the SOAP server.

**Required or optional**

Optional

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

**PARMGEN name**

KDS\_PU\_TEMS\_USER\_QUERY

**Description**

Determines query access of a user ID to the SOAP server. A user ID can have both query and update access.

**Related parameters**

- [“KDS\\_PH\\_TEMS\\_KSH\\_SECURE” on page 1387](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_UPDATE” on page 1393](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_ID” on page 1393](#)

**KDS\_PU\_TEMS\_USER\_UPDATE**

This parameter determines update access of a user ID to the SOAP server.

**Required or optional**

Optional

**Location where the parameter value is stored**

KSHXHUBS member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub

**PARMGEN name**

KDS\_PU\_TEMS\_USER\_UPDATE

**Description**

Determines update access of a user ID to the SOAP server. A user ID can have both update and query access.

#### Related parameters

- [“KDS\\_PH\\_TEMS\\_KSH\\_SECURE” on page 1387](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_QUERY” on page 1393](#)
- [“KDS\\_PU\\_TEMS\\_USER\\_ID” on page 1393](#)

## KDS\_SAFAPPL

This parameter contains the control point name and the SAF application ID for the Tivoli Enterprise Monitoring Server (TEMS).

#### Description

This parameter is the TEMS control point name and SAF application ID (APPL value) used by the TEMS SAF calls. The control point name is currently unused.

#### Required or optional

Optional. May be used to support MFA.

#### Location where the parameter value is stored

Stored in the KDSINNAM/KLVINNAM member of the `zhldev.ite.RKANPARU` library for the runtime environment of the Tivoli Enterprise Monitoring Server (TEMS).

#### Default value

CANDLE

#### Related parameters

None

## KDS\_STREAM\_SITUATION\_STATUS

This parameter controls if situation status streaming is enabled.

#### Description

This parameter controls if situation status streaming from the Tivoli Enterprise Monitoring Server to IBM Z OMEGAMON Data Provider is enabled. Setting this parameter to Y enables situation status streaming for all situations.

#### Default value

N

#### Permissible values

Y, N

## KDS\_TEMA\_SDA

This parameter indicates whether the agent uses the self-description feature.

#### Required or optional

Required

#### Location where the parameter value is stored

The TEMA\_SDA parameter in the RKANPARU data set, member KDSENV.

#### PARMGEN name

KDS\_TEMA\_SDA

#### Description

This field indicates whether one or more agents will use the self-description feature in the TEMS address space.

### Related parameters

- [“GBL\\_HFS\\_JAVA\\_DIRn” on page 1328](#)
- [“GBL\\_DSN\\_SYS1\\_SBPXEXEC” on page 1324](#)
- [“RTE\\_USS\\_RTEDIR” on page 1360](#)
- [“KDS\\_KMS\\_SDA” on page 1378](#)
- [“Kpp\\_AGT\\_TEMA\\_SDA” on page 1277](#)

## KDS\_TEMS\_COMM\_ADDRESS\_XLAT

This parameter points to the file that enables broker partitioning.

### Required or optional

Required

### Location where the parameter value is stored

KDSENV member of the *rhilev.rte.RKANPARU* library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### Parameter name

KDC\_PARTITIONFILE

#### Default value

None

#### Permissible values

KDCPART or none

### PARMGEN name

KDS\_TEMS\_COMM\_ADDRESS\_XLAT

### Description

Points to the file that enables broker partitioning. For more information about broker partitioning, see [“Firewall support” on page 148](#).

### Related parameters

- [“KDS\\_PA” on page 1381](#)
- [“KDS\\_TEMS\\_PARTITION\\_NAME” on page 1406](#)

## KDS\_TEMS\_COMM\_PROTOCOLn

This parameter specifies the communication protocol for the Tivoli Enterprise Monitoring Server.

### Description

This parameter specifies the communication protocol to be supported by the Tivoli Enterprise Monitoring Server, where *n* corresponds to a number between 1 and 7 to indicate the priority sequence for the communication protocols.

When communicating with other components, the monitoring server first tries protocol 1, and then, in the case of failure, tries protocol 2 and so on.

At least one IP-related protocol must be specified when parameter KDS\_TEMS\_DRA\_FLAG is set to Y.

The following IP-related protocols are available:

- IP.PIPE (IPPIPE): Non-secure TCP over IPv4
- IP.UDP (IP): Non-secure UDP over IPv4
- IP6.PIPE (IP6PIPE): Non-secure TCP over IPv6
- IP6.UDP (IP6): Non-secure UDP over IPv6
- IP.SPIPE (IPSPIPE): Secure (SSL/TLS) TCP over IPv4
- IP6.SPIPE (IP6SPIPE): Secure (SSL/TLS) TCP over IPv6

The following SNA protocol is available:

SNA.PIPE (SNA): Systems Network Architecture (SNA) implementation of the Network Computing System (NCS) Remote Procedure Call (RPC) API

#### Default values

KDS\_TEMS\_COMM\_PROTOCOL1: IPPIPE

KDS\_TEMS\_COMM\_PROTOCOL2: SNA

KDS\_TEMS\_COMM\_PROTOCOL3 - KDS\_TEMS\_COMM\_PROTOCOL7: empty (no value)

#### Permissible values

IPPIPE, IP, IP6PIPE, IP6, IPSPIPE, IP6SPIPE, SNA

#### Related parameters

- [RTE\\_COMM\\_PROTOCOLn](#)
- [“Kpp\\_AGT\\_COMM\\_PROTOCOLn” on page 1264](#)
- [“KDS\\_TEMS\\_DRA\\_FLAG” on page 1397](#)
- [“KDS\\_HUB\\_TCP\\_HOST” on page 1374](#)
- [“KDS\\_HUB\\_TCP\\_PIPE\\_PORT\\_NUM” on page 1374](#)
- [“KDS\\_HUB\\_TCP\\_PIPE6\\_PORT\\_NUM” on page 1374](#)
- [“KDS\\_HUB\\_TCP\\_PIPE6S\\_PORT\\_NUM” on page 1375](#)
- [“KDS\\_HUB\\_TCP\\_PIPES\\_PORT\\_NUM” on page 1375](#)
- [“KDS\\_HUB\\_TCP\\_UDP\\_PORT\\_NUM” on page 1376](#)
- [“KDS\\_HUB\\_TCP\\_UDP6\\_PORT\\_NUM” on page 1376](#)
- [“KDS\\_HUB\\_TEMS\\_HA\\_TYPE” on page 1377](#)
- [“KDS\\_HUB\\_TEMS\\_NAME\\_NODEID” on page 1377](#)
- [“KDS\\_HUB\\_VTAM\\_APPL\\_GLB\\_BROKER” on page 1377](#)
- [“KDS\\_HUB\\_VTAM\\_NETID” on page 1378](#)
- [“KDS\\_X\\_HUB\\_BKUP1\\_TCP\\_HOST” on page 1421](#)
- [“KDS\\_X\\_HUB\\_BKUP1\\_TEMS\\_VTAM\\_NETID” on page 1421](#)
- [“KDS\\_X\\_HUB\\_BKUP1\\_VTAM\\_APPL\\_GLBKR” on page 1422](#)
- [“KDS\\_X\\_HUB\\_CMS\\_FTO\\_FLAG” on page 1422](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM” on page 1413](#)
- [“KDS\\_TEMS\\_TCP\\_PIPE6\\_PORT\\_NUM” on page 1414](#)
- [“KDS\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM” on page 1414](#)
- [“KDS\\_TEMS\\_TCP\\_PIPES\\_PORT\\_NUM” on page 1415](#)
- [“KDS\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM” on page 1416](#)
- [“KDS\\_TEMS\\_TCP\\_UDP6\\_PORT\\_NUM” on page 1417](#)
- [“KDS\\_TEMS\\_VTAM\\_APPL\\_GLB\\_BROKER” on page 1418](#)
- [“KDS\\_TEMS\\_VTAM\\_APPL\\_KDS\\_VTAMID” on page 1418](#)
- [“KDS\\_TEMS\\_VTAM\\_APPL\\_LL\\_BROKER” on page 1419](#)
- [“KDS\\_TEMS\\_VTAM\\_APPL\\_PREFIX” on page 1419](#)
- [“KDS\\_TEMS\\_VTAM\\_LU62\\_DLOGMOD” on page 1419](#)
- [“KDS\\_TEMS\\_VTAM\\_NODE” on page 1420](#)
- [“Kpp\\_TEMS\\_VTAM\\_LU62\\_MODETAB” on page 1298](#)

- [“Kpp\\_TEMS\\_VTAM\\_NETID” on page 1298](#)

## KDS\_TEMS\_DRA\_FLAG

The KDS\_TEMS\_DRA\_FLAG parameter controls the generation of the KOBAGENT startup command in `⌘KANCMDU(KDSSTR1)`. KOBAGENT is the data-retrieval agent (DRA) for the OMEGAMON enhanced 3270 user interface (if installed in this SMP/E environment). If not installed in this CSI, then KOBAGENT startup is simply ignored at monitoring server startup.

### Required or optional

Required if you configure the OMEGAMON enhanced 3270 user interface component. If the value of this parameter is set to Y, at least one IP-related protocol, for example IPPIPE, must be specified for parameter [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)

### Location where the parameter value is stored

If the flag is set to Y, the AT `ADD ID=KOB DELAY=00:00:10 CMD='IRAMAN KOBAGENT START'` startup parameter is added to the KDSSTR1 member of the `rhilev.rtename.RKANCMDU` library.

### Parameter name and syntax

```
AT ADD ID=KOB DELAY=00:00:10 CMD='IRAMAN KOBAGENT START'
```

### Default value

Y

### Permissible values

Y, N

### PARMGEN name

KDS\_TEMS\_DRA\_FLAG

### Description

The KDS\_TEMS\_DRA\_FLAG parameter controls the generation of the KOBAGENT startup command in `⌘KANCMDU(KDSSTR1)`. KOBAGENT is the OMEGAMON enhanced 3270 user interface’s data retrieval agent (DRA) (if installed in the SMP/E environment). If not installed in this CSI, then KOBAGENT startup is ignored when the TEMS starts up.

### Related parameters

- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#) (IP-related protocol required if KDS\_TEMS\_DRA\_FLAG=Y)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KOB\\_TOM\\_STC” on page 1437](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)
- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)

## KDS\_TEMS{EIF\_BUFFER\_EVENT\_MAXSIZE

This parameter specifies the maximum size, in KB, of the adapter cache file.

### Required or optional

Required for the hub Tivoli Enterprise Monitoring Server if event forwarding is enabled; does not apply to a remote monitoring server

### Location where the parameter value is stored

KMSOMTEC member of the `rhilev.rte.RKANPARU` library for the runtime environment of the hub monitoring server

### Parameter name

BufEvtMaxSize

### Default value

4096

### Permissible values

**PARMGEN name**

KDS\_TEMS{EIF\_BUFFER\_EVENT\_MAXSIZE

**Description**

Maximum size, in KB, of the adapter cache file. The cache file stores events on disk when they cannot be sent to the event server.

**Related parameters**

- [“KDS\\_TEMS{EIF\\_EVENT\\_LISTENER” on page 1398](#)
- [“KDS\\_TEMS{EIF\\_FLAG” on page 1399](#)

**KDS\_TEMS{EIF\_DISABLE\_TEC\_EMITTER**

This parameter specifies whether to deactivate the EIF emitter activities in your policies to prevent workflow policies containing emitter activities that send events to the Tivoli Enterprise Console® from generating duplicate events.

**Required or optional**

Optional for the hub Tivoli Enterprise Monitoring Server if event forwarding is enabled and if the IBM® Tivoli Enterprise Console® is defined as the event server; does not apply to a remote monitoring server

**Location where the parameter value is stored**

KMSOMTEC member of the *rhilev.rte.RKANPARU* library for the runtime environment of the hub monitoring server

**Parameter name**

KMS\_DISABLE\_TEC\_EMITTER

**Default value**

None

**Permissible values**

Y or none

**PARMGEN name**

KDS\_TEMS{EIF\_DISABLE\_TEC\_EMITTER

**Description**

If you already have workflow policies containing emitter activities that send events to the Tivoli Enterprise Console®, turning on EIF event-forwarding causes duplicate events. You can specify Y in this field to deactivate the emitter activities in your policies.

Policies give you more control over which events are sent, and you might want to keep some policies active. Moreover, policies that contain the Tivoli Enterprise Console® emitter activities generally do little else. If you deactivate these activities, there is no point in running the policies. Therefore, you might want to delete the policies that are no longer required, instead of disabling them.

**Related parameters**

- [“KDS\\_TEMS{EIF\\_EVENT\\_LISTENER” on page 1398](#)
- [“KDS\\_TEMS{EIF\\_FLAG” on page 1399](#)

**KDS\_TEMS{EIF\_EVENT\_LISTENER**

This parameter specifies the type of event server.

**Required or optional**

Required for the hub Tivoli Enterprise Monitoring Server if event forwarding is enabled; does not apply to a remote monitoring server

**Location where the parameter value is stored**

KMSOMTEC member of the *rhilev.rte.RKANPARU* library for the runtime environment of the hub monitoring server

**Parameter name**

EventListenerType

**Default value**

T

**Permissible values**

T or M

**PARMGEN name**

KDS\_TEMS{EIF\_EVENT\_LISTENER

**Description**

Type of event server: T (the default) for Tivoli Enterprise Console®, or M for OMNIbus.

**Related parameters**

- [“KDS\\_TEMS{EIF\\_FLAG” on page 1399](#)
- [“KDS\\_TEMS{EIF\\_DISABLE\\_TEC\\_EMITTER” on page 1398](#)

## KDS\_TEMS{EIF\_FLAG

This parameter determines whether to enable event forwarding from the hub.

**Required or optional**

Optional for the hub Tivoli Enterprise Monitoring Server; does not apply to a remote monitoring server

**Location where the parameter value is stored**

KDSENV member of the *rhilev.rte.RKANPARU* library for the runtime environment of the hub monitoring server

**Parameter name**

KMS\_OMTEC\_INTEGRATION

**Default value**

None

**Permissible values**

YES or none

**PARMGEN name**

KDS\_TEMS{EIF\_FLAG

**Description**

Determines whether to enable event forwarding from the hub. If the value of this parameter is Y, the KMS\_OMTEC\_INTEGRATION parameter is created in the KDSENV member.

**Related parameters**

None

## KDS\_TEMS{EIF\_HOST

This parameter contains the fully-qualified hostname or dotted-decimal IPv4 address of the primary event server and of up to seven backup event servers.

**Description**

Fully-qualified hostname or dotted-decimal IPv4 address of the primary event server and of up to seven backup event servers. If you specify more than one event server, use commas to separate the hostnames or IP addresses. If an event cannot be sent to the first server on the list, the next one is tried, and so on. This parameter is required for the hub Tivoli Enterprise Monitoring Server if event forwarding is enabled; this does not apply to a remote monitoring server.

**Note:** IPv6 is not supported for sending EIF events from the hub monitoring server or from monitoring agents.

**Default value**

None

**Permissible values**

Character string, maximum length 44

**Related parameters**

- [“KDS\\_TEMS{EIF\\_PORT\\_NUM” on page 1400](#)
- [“KDS\\_TEMS{EIF\\_FLAG” on page 1399](#)

## KDS\_TEMS{EIF\_PORT\_NUM

This parameter contains the port number on which the Tivoli Enterprise Console® event server or OMNIBus EIF probe listens for events.

**Required or optional**

Required for the hub Tivoli Enterprise Monitoring Server if event forwarding is enabled; does not apply to a remote monitoring server

**Location where the parameter value is stored**

KMSOMTEC member of the *rhilev.rte.RKANPARU* library for the runtime environment of the hub monitoring server

**Parameter name**

ServerPort

**Default value**

5529

**Permissible values**

Character string, maximum length 44

**PARMGEN name**

KDS\_TEMS{EIF\_PORT\_NUM

**Description**

Port number on which the Tivoli Enterprise Console® event server or OMNIBus EIF probe listens for events. If you specify more than one event server, use commas to separate the port numbers. List the port numbers in an order corresponding to the list of event server locations specified in the [“KDS\\_TEMS{EIF\\_HOST” on page 1399](#) parameter.

**Related parameters**

- [“KDS\\_TEMS{EIF\\_HOST” on page 1399](#)
- [“KDS\\_TEMS{EIF\\_FLAG” on page 1399](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_FLUSH\_LSR\_BUFR\_INT\_HR

This parameter specifies in hours how often you want to force all deferred VSAM writes to DASD.

**Required or optional**

Optional

**Location where the parameter value is stored**

Part of the third EVERY command in the KDSSTART member of the *rhilev.rte.RKANCMDU* data set  
Example:

```
EVERY 00:30:00 FLUSH
```

**Default value**

00

**Permissible values**

00 - 24

**PARMGEN name**

KDS\_TEMS\_FLUSH\_LSR\_BUFR\_INT\_HR

**Description**

Specifies in hours how often you want to force all deferred VSAM writes to DASD.

**Related parameters**

- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_LOG\\_FLAG” on page 1409](#)
- [“KDS\\_TEMS\\_FLUSH\\_LSR\\_BUFR\\_INT\\_MIN” on page 1401](#)

**KDS\_TEMS\_FLUSH\_LSR\_BUFR\_INT\_MIN**

This parameter specifies in minutes how often you want to force all deferred VSAM writes to DASD.

**Required or optional**

Optional

**Location where the parameter value is stored**

Part of the third EVERY command in the KDSSTART member of the *rhilev.rte.RKANCMDU* data set  
Example:

```
EVERY 00:30:00 FLUSH
```

**Default value**

30

**Permissible values**

00 - 60

**PARMGEN name**

KDS\_TEMS\_FLUSH\_LSR\_BUFR\_INT\_MIN

**Description**

Specifies in minutes how often you want to force all deferred VSAM writes to DASD.

**Related parameters**

- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_LOG\\_FLAG” on page 1409](#)
- [“KDS\\_TEMS\\_FLUSH\\_LSR\\_BUFR\\_INT\\_HR” on page 1400](#)

**KDS\_TEMS\_HA\_EXCL\_LIST**

This parameter specifies an eligible product or products to be excluded from reporting to the high-availability hub.

**Required or optional**

Optional

**Location where the parameter value is stored**

The parameter value is not stored, but is used for internal processing.

#### **PARMGEN name**

KDS\_TEMS\_HA\_EXCL\_LIST

#### **Description**

Specifies an eligible product or products to be excluded from reporting to the high-availability hub. You can exclude products by specifying the 2-character product code of each product that you want to exclude. Use a single blank space to separate product codes. The list can have a maximum length of 50 characters. To exclude more products than can be accommodated by the KDS\_CMS\_HA\_EXCL\_LIST or KDS\_TEMS\_HA\_EXCL\_LIST parameter, specify more than one KDS\_CMS\_HA\_EXCL\_LIST $n$  or KDS\_TEMS\_HA\_EXCL\_LIST $n$  parameter, where  $n$  is a number from 1 to 5.

#### **Related parameters**

- [“KDS\\_TEMS\\_HA\\_TYPE” on page 1402](#)

## **KDS\_TEMS\_HA\_TYPE**

This parameter determines whether to configure the Tivoli Enterprise Monitoring Server as a high-availability hub.

#### **Description**

This parameter determines whether to configure the Tivoli Enterprise Monitoring Server as a high-availability hub. This configuration requires a sysplex environment with dynamic virtual IP addressing (DVIPA) and shared DASD. A high-availability hub is configured in its own runtime environment, without monitoring agents, and can be configured on the same LPAR with a remote monitoring server. This configuration allows the hub to be relocated to any suitable LPAR in the sysplex with no changes, and with minimal disruption to the components connecting to the hub.

#### **Default value**

None

#### **Permissible values**

HA

#### **Related parameters**

- [“KDS\\_TEMS\\_TYPE” on page 1417](#)
- [“KDS\\_HUB\\_TEMS\\_HA\\_TYPE” on page 1377](#)
- [“KDS\\_TEMS\\_HA\\_EXCL\\_LIST” on page 1401](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)

## **KDS\_TEMS\_HTTP\_PORT\_NUM**

Use this parameter to specify the port number for HTTP communications with the Tivoli Enterprise Monitoring Server.

#### **Description**

This parameter specifies the port number for HTTP communications between the Tivoli Enterprise Monitoring Server (TEMS) and other components. If the specified port is in use when the hub monitoring server is started, another port is assigned. For more information about assigning port numbers, see [Port number assignments](#).

#### **Permissible values**

1 – 65535

#### **Default value**

1920

#### **Related parameters**

- [“RTE\\_TEMS\\_TRANSPORT\\_MODE” on page 290](#)
- [“KDS\\_TEMS\\_SOAP\\_SERVER\\_FLAG” on page 1408](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)

- “KDS\_TEMS\_COMM\_PROTOCOLn” on page 1395
- KDS\_HUB\_\* parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- KDS\_X\_HUB\_\* parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_HTTPS\_PORT\_NUM

Use this parameter to specify the port number for HTTPS communications with the Tivoli Enterprise Monitoring Server.

### Description

This parameter specifies the port number for HTTPS communications between the Tivoli Enterprise Monitoring Server (TEMS) and other components. If the specified port is in use when the hub monitoring server is started, another port is assigned. For more information about assigning port numbers, see [Port number assignments](#).

### Permissible values

1 – 65535

### Default value

3661

### Related parameters

- “RTE\_TEMS\_TRANSPORT\_MODE” on page 290

## KDS\_TEMS\_ICU\_LANGUAGE\_LOCALE

This parameter contains the language and region for the z/OS® system.

### Description

Language and region for the z/OS® system.

If the z/OS® UNIX® System Services code page (en\_US.ibm-1047) is required, you can specify either of these values for the z/OS UNIX code page:

```
KDS_TEMS_ICU_LANGUAGE_LOCALE    en_US.ibm-1047
KDS_TEMS_ICU_LANGUAGE_LOCALE    1A
```

The z/OS UNIX code page (en\_US.ibm-1047) is required for agent autonomy and for private situation XML files.

The following table lists the acceptable languages:

<i>Table 124: Language locales and corresponding code pages</i>		
Language locale	Code page	National language and region
1a or 1A	en_US.ibm-1047	English - United States (z/OS® UNIX® System Services)
1	en_US.ibm-037	English - United States
2	en_UK.ibm-285	English - United Kingdom
3	de_DE.ibm-273	German - Germany
4	de_CH.ibm-500	German - Switzerland
5	fr_BE.ibm-500	French - Belgium
6	fr_FR.ibm-297	French - France
7	fr_CH.ibm-500	French - Switzerland
8	es_ES.ibm-284	Spanish - Spain
9	it_IT.ibm-280	Italian - Italy
10	pt_PT.ibm-037	Portuguese - Portugal
11	pt_BR.ibm-037	Portuguese - Brazil
12	no_NO.ibm-277	Norwegian - Norway

Language locale	Code page	National language and region
13	sv_SE.ibm-278	Swedish - Sweden
14	da_DK.ibm-277	Danish - Denmark
15	fi_FI.ibm-278	Finnish - Finland
16	ja_JP.ibm-290	Japanese - Japan
17	fr_CA.ibm-500	French - Canada
18	zh_TW.ibm-937	Traditional Chinese - Taiwan
19	zh_CN.ibm-935	Simplified Chinese - China
20	sq_AL.ibm-500	Albanian - Albania
21	bg_BG.ibm-500	Bulgarian - Bulgaria
22	cs_CZ.ibm-870	Czech - Slovenia
23	nl_BE.ibm-500	Dutch - Belgium
24	nl_NL.ibm-037	Dutch - Netherlands
25	el_GR.ibm-87	Greek - Greece
26	iw_IL.ibm-424	Hebrew - Israel
27	ko_KR.ibm-933	Korean - Korea
28	lt_LT.ibm-1112	Lithuanian - Lithuania
29	mk_MK.ibm-1025	Macedonian - Macedonia
30	ro_RO.ibm-870	Romanian - Romania
31	ru_RU.ibm-1025	Russian - Russia
32	sr_SP.ibm-1025	Serbian - Serbia
33	sr_SP.ibm-870	Slovak - Slovakia
34	sk_SK.ibm-870	Slovenian - Slovenia
35	th_TH.ibm-838	Thai - Thailand
36	tr_TR.ibm-1026	Turkish - Turkey

#### Permissible values

Using code page: *lang.ibm-*nnn**

Using language locale: 1a, 1A, 1-36

#### Default value

en\_US.ibm-1047

#### Related parameters

[“Kpp\\_AGT\\_ICU\\_LANGUAGE\\_LOCALE” on page 1267](#)

## KDS\_TEMS\_KDC\_DEBUG

This parameter determines the trace option.

#### Required or optional

Optional

#### Location where the parameter value is stored

KDSENV member of the *rhilev.rte.RKANPARU* library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### Parameter name

KBS\_DEBUG

#### Default value

N

**Permissible values**

N, Y, D, M, or A

**PARMGEN name**

KDS\_TEMS\_KDC\_DEBUG

**Description**

Determines the trace option. The default setting of N instructs the data communications layer to summarize communications problems, and is intended for stable applications in production. The default setting generates standard RAS1 trace data in the RKLVLLOG, in addition to the summary information diagnosing possible timeout conditions. The following settings report on data communications problems:

**N**

Minimal tracing (the default)

**Y**

Full-packet tracing

**Note:** The Y setting causes a great many records to be written to the log files. Use this setting only for testing or problem diagnosis.

**D**

Y, plus state and flow tracing

**M**

D, plus input and output help tracing

**A**

M, plus all-format tracing

**Note:** Do not use the A setting unless directed by IBM® Software Support personnel.

**Related parameters**

None

**KDS\_TEMS\_KGL\_WTO**

This parameter determines whether a SYSLOG message is written to the console to indicate that the monitoring server has completed initialization.

**Required or optional**

Required

**Location where the parameter value is stored**

KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

**Parameter name**

KGL\_WTO

**Default value**

YES

**Permissible values**

YES or none

**PARMGEN name**

KDS\_TEMS\_KGL\_WTO

**Description**

Determines whether a SYSLOG message is written to the console to indicate that the monitoring server has completed initialization. You can use this message as an UP status message in your automation package (for example, IBM® System Automation for z/OS®). See the documentation for your automation package for instructions on capturing the monitoring server automation message IDs (KO4SRV032 and KDSMA001).

#### Related parameters

None

## KDS\_TEMS\_KLX\_TCP\_TOLERATERECYCLE

This parameter determines whether the monitoring server address space reconnects to its TCP/IP stack without being recycled after the stack is recycled.

#### Required or optional

Required

#### Location where the parameter value is stored

KLXINTCP member of the *rhilev.rte.RKANPARU* library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### Parameter name

TCP/IP\_USERID (TOLERATERECYCLE option)

Example:

```
TCP/IP_USERID='*' TOLERATERECYCLE
```

#### Default value

None

#### Permissible values

TOLERATERECYCLE or None

#### PARMGEN name

KDS\_TEMS\_KLX\_TCP\_TOLERATERECYCLE

#### Description

Determines whether the monitoring server address space reconnects to its TCP/IP stack without being recycled after the stack is recycled. If this parameter is set to N (the default), then if the TCP/IP stack used by the monitoring server is recycled, the monitoring server address space must also be recycled to re-establish TCP/IP connectivity. If this parameter is set to Y, the TOLERATERECYCLE option is added to the TCP/IP\_USERID parameter in KLXINTCP.

#### Related parameters

None

## KDS\_TEMS\_PARTITION\_NAME

This parameter contains the partition name (label) that identifies the location of the monitoring server relative to the firewall or firewalls used for address translation.

#### Required or optional

Required if you specified Y for the “[KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT](#)” on [page 1395](#) parameter

#### Location where the parameter value is stored

KDCPART member of the *rhilev.rte.RKANPARU* library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### PARMGEN name

KDS\_TEMS\_PARTITION\_NAME

#### Description

Partition name (label) that identifies the location of the monitoring server relative to the firewall or firewalls used for address translation. The partition name that you supply is added to the partition table, which contains labels and associated socket addresses provided by the firewall administrator. The label is used outside the firewall to establish monitoring server connections. The well-known port for the hub monitoring

server must be authorized by the firewall administrator. For the IP\*.PIPE protocols, no additional ports require authorization.

#### Related parameters

- [“KDS\\_TEMS\\_COMM\\_ADDRESS\\_XLAT” on page 1395](#)
- [“KDS\\_PA” on page 1381](#)
- [“KDS\\_PA\\_PARTITION\\_NAME” on page 1382](#)

## KDS\_TEMS\_PROC\_SHARED

This parameter indicates if the monitoring server procedure can be shared.

#### Description

This flag specifies if the monitoring server procedure can be shared among different systems in the sysplex. When the flag is set to Y, the same procedure is generated for a hub monitoring server or a remote monitoring server, and the procedure can be copied to a shared SYS1.PROCLIB.

#### Default value

N

#### Permissible values

Y, N

## KDS\_TEMS\_SECURITY\_KAES256\_ENCKEY (deprecated)

This parameter contains unique 32-byte password encryption key. Starting with APAR OA41710, this parameter has been deprecated in favor of the global runtime environment parameter RTE\_SECURITY\_KAES256\_KEY.

#### Required or optional

Required if ICSF is installed and configured on the z/OS® system

#### Location where the parameter value is stored

KAES256 member of the *rhilev.rte.RKANPARU* library for the runtime environment of the Tivoli Enterprise Monitoring Server. The stored value is encrypted.

#### Default value

IBMTivoliMonitoringEncryptionKey

#### Permissible values

Character string, maximum length 32, no ampersand (&) character

#### PARMGEN name

KDS\_TEMS\_SECURITY\_KAES256\_ENCKEY

#### Description

Unique 32-byte password encryption key. The value is case-sensitive. You must use the same key during the installation of any components that communicate with the monitoring server. For further information, see [“Configuring security on a monitoring server on z/OS” on page 538](#).

#### Related parameters

- [“GBL\\_DSN\\_CSF\\_SCSFMOD0” on page 280](#)

## KDS\_TEMS\_SECURITY\_KDS\_VALIDATE

This parameter determines whether the hub monitoring server validates user IDs and passwords.

#### Description

This parameter determines whether the hub monitoring server validates user IDs and passwords. If this parameter is set to Y, validation of users is handled by the security system specified for the runtime environment.

#### Default value

Y

**Permissible values**

Y, N

**Related parameters**

- [“RTE\\_SECURITY\\_USER\\_LOGON” on page 1348](#)

## **KDS\_TEMS\_SOAP\_SERVER\_FLAG**

This parameter determines whether to enable the Web Services Simple Object Access Protocol (SOAP) server.

**Required or optional**

Required for a hub Tivoli Enterprise Monitoring Server. This parameter can be set to Y only when an IP-related protocol is specified in [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#).

**Location where the parameter value is stored**

The parameter value is not stored, but is used for internal processing.

**PARMGEN name**

KDS\_TEMS\_SOAP\_SERVER\_FLAG

**Description**

Determines whether to enable the Web Services Simple Object Access Protocol (SOAP) server. The SOAP server is an application server plug-in that receives and sends XML data, and provides XML SOAP interfaces into the Tivoli® Management Services components and the monitoring agents. This feature requires a TCP communication protocol.

**Related parameters**

N

- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#) (IP-related protocol required if KDS\_TEMS\_SOAP\_SERVER\_FLAG=Y)

one

## **KDS\_TEMS\_STC**

This parameter contains the unique name of the started task JCL procedure for the monitoring server.

**Required or optional**

Required

**Location where the parameter value is stored**

Value becomes the name of the Tivoli Enterprise Monitoring Server started task procedure member in the *rhilev.rte.RKANSAMU* library

**PARMGEN name**

KDS\_TEMS\_STC

**Description**

Unique name of the started task JCL procedure for the monitoring server. Make a note of the name, because you will to copy this started task procedure to your system procedure library. The default started task name for a monitoring server is IBMDS in PARMGEN.

**Related parameters**

- [“RTE\\_STC\\_PREFIX” on page 1352](#)

## **KDS\_TEMS\_STORAGE\_DETAIL\_INT\_HR**

This parameter specifies in hours how often you want storage allocation detail to be logged.

**Required or optional**

Required if the value of the [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_LOG\\_FLAG” on page 1409](#) parameter is Y

**Location where the parameter value is stored**

Part of the second EVERY command in the KDSSTART member of the *rhilev.rte.RKANCMDU* library  
Example:

```
EVERY 00:60:00 STORAGE D
```

**Default value**

00

**Permissible values**

00 - 24

**PARMGEN name**

KDS\_TEMS\_STORAGE\_DETAIL\_INT\_HR

**Description**

Specifies in hours how often you want storage allocation detail to be logged.

**Related parameters**

- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_INT\\_MIN” on page 1409](#)
- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_LOG\\_FLAG” on page 1409](#)

**KDS\_TEMS\_STORAGE\_DETAIL\_INT\_MIN**

This parameter specifies in minutes how often you want storage allocation detail to be logged.

**Required or optional**

Required if the value of the [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_LOG\\_FLAG” on page 1409](#) parameter is Y

**Location where the parameter value is stored**

Part of the second EVERY command in the KDSSTART member of the *rhilev.rte.RKANCMDU* library  
Example:

```
EVERY 00:60:00 STORAGE D
```

**Default value**

60

**Permissible values**

00 - 60

**PARMGEN name**

KDS\_TEMS\_STORAGE\_DETAIL\_INT\_MIN

**Description**

Specifies in minutes how often you want storage allocation detail to be logged.

**Related parameters**

- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_INT\\_HR” on page 1408](#)
- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_LOG\\_FLAG” on page 1409](#)

**KDS\_TEMS\_STORAGE\_DETAIL\_LOG\_FLAG**

This parameter determines whether to enable storage allocation detail logging.

**Required or optional**

Optional

**Location where the parameter value is stored**

Generates the second EVERY command in the KDSSTART member of the *rhilev.rte.RKANCMDU* library

## PARMGEN name

KDS\_TEMS\_STORAGE\_DETAIL\_LOG\_FLAG

## Description

Determines whether to enable storage allocation detail logging. You can use the storage detail command output to analyze storage allocated by the monitoring server address space. To disable storage detail logging, set this parameter to N. The second EVERY command is then written as a comment in *rhilev.rte.RKANCMU(KDSSTART)*.

If you disable storage logging and then want to activate it after the monitoring server is configured and running, you can issue the following modify command to the monitoring server started task:

```
/F started_task,EVERY hh:mm:ss STORAGE D
```

Issuing this modify command activates storage detail logging without a requirement to recycle the monitoring server.

## Related parameters

- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_INT\\_HR” on page 1408](#)
- [“KDS\\_TEMS\\_STORAGE\\_DETAIL\\_INT\\_MIN” on page 1409](#)

## KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND

This parameter contains the maximum extended (above-the-line) storage request size, as a power of 2.

## Required or optional

Required

## Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

## Parameter name and syntax

LIMIT(*n*,*X*)

## Default value

- Default for PARMGEN: LIMIT(23,*X*)
- Default in TMS:Engine: LIMIT(16,*X*)

## Permissible values

No higher than 25 (see Description)

## PARMGEN name

KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND

## Description

Maximum extended (above-the-line) storage request size, as a power of 2. The value can be no higher than 25 (32768 KB).

This value is used in building storage access tables to speed memory allocation. If a process in TMS:Engine attempts to allocate a block of storage larger than the value set, program interruption U0100 or U0200 results. Too small a value causes components to fail. Too large a value wastes storage and increases processing overhead. You might to specify a large value if any monitoring agent reporting to the monitoring server builds large VTAM® request/response units (RUs) and data streams.

## Related parameters

- [“KDS\\_TEMS\\_STORAGE\\_LIMIT\\_PRIMARY” on page 1410](#)
- [“KDS\\_TEMS\\_STORAGE\\_MINIMUM\\_EXTEND” on page 1411](#)

## KDS\_TEMS\_STORAGE\_LIMIT\_PRIMARY

This parameter contains the maximum primary (below-the-line) storage request size, as a power of 2.

**Required or optional**

Required

**Location where the parameter value is stored**KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server**Parameter name and syntax**LIMIT(*n*,*P*)**Default value**LIMIT(20,*P*)**Permissible values**

No higher than 25 (see Description)

**PARMGEN name**

KDS\_TEMS\_STORAGE\_LIMIT\_PRIMARY

**Description**

Maximum primary (below-the-line) storage request size, as a power of 2. The value can be no higher than 25 (32768 KB). The default maximum for primary storage is 20 (64 KB). However, some monitoring agents configured to run in the monitoring server address space require a maximum primary storage request size of 20 (1 MB).

This value is used in building storage access tables to speed memory allocation. If a process in TMS:Engine attempts to allocate a block of storage larger than the value set, program interruption U0100 or U0200 results. Too small a value causes components to fail. Too large a value wastes storage and increases processing overhead. You might to specify a large value if any monitoring agent reporting to the monitoring server builds large VTAM® request/response units (RUs) and data streams.

**Related parameters**

- [“KDS\\_TEMS\\_STORAGE\\_LIMIT\\_EXTEND” on page 1410](#)
- [“KDS\\_TEMS\\_STORAGE\\_MINIMUM\\_EXTEND” on page 1411](#)

**KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND**

This parameter specifies the minimum number of kilobytes of extended (above-the-line) storage to be made available to the monitoring agents and other components that are communicating with the monitoring server.

**Required or optional**

Required

**Location where the parameter value is stored**KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server**Parameter name and syntax**MINIMUM(*n*,*X*)**Default value**MINIMUM(768000,*X*)**Permissible values**

1 - 9999999

**PARMGEN name**

KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND

**Description**

Minimum number of kilobytes of extended (above-the-line) storage to be made available to the monitoring agents and other components that are communicating with the monitoring server. The default value is 768000 KB. If you do not have many IBM® components reporting to the monitoring server and you want to conserve storage, you can lower the value.

**Related parameters**

- [“KDS\\_TEMS\\_STORAGE\\_LIMIT\\_EXTEND” on page 1410](#)

- [“KDS\\_TEMS\\_STORAGE\\_LIMIT\\_PRIMARY” on page 1410](#)

## KDS\_TEMS\_TCP\_HOST

This parameter specifies the TCP/IP hostname or IP address of the z/OS® system where the monitoring server is installed.

### Description

TCP/IP hostname or IP address of the z/OS® system where the monitoring server is installed.

**Note:** To modify this parameter value using Configuration Manager, use parameter [“RTE\\_TCP\\_HOST” on page 288](#), which sets the same value for the monitoring server and the monitoring agents.

To obtain the hostname or IP address, enter `TSO HOMETEST` at the command line. If the z/OS® domain name resolver configuration specifies a search path that includes the target domain suffix, specify only the first qualifier of the hostname. (Example: `sys` is the first qualifier of the fully qualified hostname `sys.ibm.com`.) Otherwise, specify the fully-qualified hostname.

For a high-availability hub, the hostname is the application-instance-specific (private) dynamic virtual IP address you have defined to the Domain Name Server (DNS).

### Default value

#### For Configuration Manager:

Value set for parameter [“RTE\\_TCP\\_HOST” on page 288](#), which defaults to `%SYSIPHOSTNAME%`

#### For PARMGEN:

`%SYSIPHOSTNAME%`

### Permissible values

Character string, maximum length 39

### Related parameters

- [“RTE\\_TCP\\_HOST” on page 288](#)
- [“KDS\\_PHnn\\_TEMS\\_TCP\\_HOST” on page 1388](#)
- [“KDS\\_HUB\\_TCP\\_HOST” on page 1374](#)
- [“KDS\\_TEMS\\_TCP\\_KDEB\\_INTERFACELIST” on page 1412](#)
- [“GBL\\_DSN\\_TCP\\_SYSTCPD\\_TCPDATA” on page 1327](#)
- [“KDS\\_X\\_STC\\_SYSTCPD\\_INCLUDE\\_FLAG” on page 1425](#)

## KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST

This parameter specifies a list of network interfaces for the monitoring server to use for IPv4 communication.

### Description

This parameter specifies one or more network interfaces for the monitoring server to use for IPv4 communication.

**Note:** To modify this parameter value using Configuration Manager, use parameter [“RTE\\_TCP\\_KDEB\\_INTERFACELIST” on page 295](#), which sets the same value for the monitoring server and the monitoring agents.

If the z/OS® image has more than one TCP/IP interface or network adapter, you can use this parameter to direct the monitoring server to connect to a specific TCP/IP local interface.

To set a network interface list, supply one of the following values:

- The hostname or dotted-decimal IPv4 address of the preferred interface.
- A list of hostnames or dotted-decimal IPv4 addresses, in descending order of preference. Use a blank (space) to separate the entries.
- An asterisk (\*) to prefer the interface associated with the default hostname for the z/OS® image. To display this value, enter `TSO HOMETEST` at the command line.
- An exclamation point followed by an asterisk (!\*) to use only the interface associated with the default hostname for the z/OS® image.
- An exclamation point followed by a hostname or dotted-decimal IPv4 address (!*hostname*) to use only the interface associated with *hostname*.  
If you set the value of this parameter to !\* or !*hostname*, you must specify the same value for every component and product configured in all runtime environments on the same z/OS® image.  
For a high-availability hub, specify the value of this parameter as !*dvipa*, where *dvipa* is the private dynamic virtual IP address (DVIPA) set for the `"KDS_TEMS_TCP_HOST"` on page 1412 parameter.

**Note:** In the default character set (LANG=en\_US.ibm-037), the code for an exclamation point is x'5A'. If you are using a character set other than the default, a different character might map to that code. To require a specific network interface, use the character that maps to x'5A' in your character set.

#### Default value

##### For Configuration Manager:

Value set for parameter `"RTE_TCP_KDEB_INTERFACELIST"` on page 295, which defaults to !\*

##### For PARMGEN:

None

#### Permissible values

Character string, maximum length 44

#### Related parameters

- `"KDS_TEMS_TCP_HOST"` on page 1412
- `"RTE_TCP_KDEB_INTERFACELIST"` on page 295

## KDS\_TEMS\_TCP\_PIPE\_PORT\_NUM

This parameter specifies the well-known port for the monitoring server for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4). Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server).

#### Description

Well-known port for the monitoring server for the IP.PIPE communication protocol (the TCP/IP protocol that supports IPv4). Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server for IP.PIPE is 1918 or the value set for the `"RTE_TCP_PORT_NUM"` on page 289 parameter. You might find it necessary to change the setting under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component. For a remote Tivoli Enterprise Monitoring Server, the port number must be the same as that of the hub.

For detailed information about assigning port numbers, see `"Port number assignments"` on page 150.

This parameter is required if you specified IP.PIPE as a communication protocol for the Tivoli Enterprise Monitoring Server.

#### Default value

1918 or the value set for the `"RTE_TCP_PORT_NUM"` on page 289 parameter

### Permissible values

1 - 65535

### Related parameters

- [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_TCP\_PIPE6\_PORT\_NUM

This parameter specifies the well-known port for the monitoring server for the IP6.PIPE communication protocol (the TCP/IP protocol that supports IPv6).

### Description

Well-known port for the monitoring server for the IP6.PIPE communication protocol (the TCP/IP protocol that supports IPv6).

Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server for IP6.PIPE is 1918 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter. You might find it necessary to change the setting under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component. For a remote Tivoli Enterprise Monitoring Server, the port number must be the same as that of the hub.

For detailed information about assigning port numbers, see [“Port number assignments” on page 150](#).

This parameter is required if you specified IP6.PIPE as a communication protocol for the Tivoli Enterprise Monitoring Server.

### Default value

1918 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter

### Permissible values

1 - 65535

### Related parameters

- [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_TCP\_PIPE6S\_PORT\_NUM

This parameter specifies the well-known port for the monitoring server for the IP6.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6).

### Description

Well-known port for the monitoring server for the IP6S.PIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv6).

Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the

port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server for IP6.SPIPE is 3660 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter. You might find it necessary to change the setting under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component. For a remote Tivoli Enterprise Monitoring Server, the port number must be the same as that of the hub.

For detailed information about assigning port numbers, see [“Port number assignments” on page 150](#).

This parameter is required if you specified IP6.SPIPE as a communication protocol for the Tivoli Enterprise Monitoring Server.

#### **Default value**

3660 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter

#### **Permissible values**

1 - 65535

#### **Related parameters**

- [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## **KDS\_TEMS\_TCP\_PIPES\_PORT\_NUM**

This parameter specifies the well-known port for the monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv4).

#### **Description**

Well-known port for the monitoring server for the IP.SPIPE communication protocol (the TCP/IP protocol that supports Secure Sockets Layer communications over IPv4).

Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server for IP.SPIPE is 3660 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter. You might find it necessary to change the setting under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component. For a remote Tivoli Enterprise Monitoring Server, the port number must be the same as that of the hub.

For detailed information about assigning port numbers, see [“Port number assignments” on page 150](#).

This parameter is required if you specified IP.SPIPE as a communication protocol for the Tivoli Enterprise Monitoring Server.

#### **Default value**

3660 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter

#### **Permissible values**

1 - 65535

#### **Related parameters**

- [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_TCP\_STC

This parameter identifies the TCP/IP stack to be used. If the LPAR contains a single TCP/IP stack, accept the default value of an hash or pound sign (#), which uses the first TCP/IP stack that was started.

### Description

Identifies the TCP/IP stack to be used.

If the LPAR contains more than one TCP/IP stack, specify the started task name of the TCP/IP stack you want to use. Alternatively, you can specify the pound or hash sign (#), which is translated to a blank and allows the TCP/IP environment to choose the stack to use, either through TCP/IP definitions or through the use of the SYSTCPD DD statement.

Whichever method is used to select a TCP/IP stack in a multi-stack environment, the Tivoli® Management Services components continue to use that stack, even if a different stack becomes the primary stack. Therefore, in a multi-stack environment, it is best to specify the started task name of the TCP/IP stack to be used, rather than specifying a wildcard or a blank.

### Required or optional

Required

### Default value

#

### Permissible values

Character string, maximum length 8

### Related parameters

None

## KDS\_TEMS\_TCP\_UDP\_PORT\_NUM

This parameter specifies the well-known port for the monitoring server for the IP.UDP communication protocol (the TCP/IP protocol that uses the packet-based, connectionless User Datagram Protocol under IPv4).

### Description

Well-known port for the monitoring server for the IP.UDP communication protocol (the TCP/IP protocol that uses the packet-based, connectionless User Datagram Protocol under IPv4).

Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server for IP.UDP is 1918 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter. You might find it necessary to change the setting under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component. For a remote Tivoli Enterprise Monitoring Server, the port number must be the same as that of the hub.

For detailed information about assigning port numbers, see [“Port number assignments” on page 150](#).

This parameter is required if you specified IP.UDP as a communication protocol for the Tivoli Enterprise Monitoring Server.

### Default value

1918 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter

### Permissible values

1 - 65535

### Related parameters

- [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)

- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_TCP\_UDP6\_PORT\_NUM

This parameter specifies the well-known port for the monitoring server for the IP6.UDP communication protocol (the packet-based, connectionless User Datagram Protocol that supports IPv6).

### Description

This parameter specifies the well-known port for the monitoring server for the IP6.UDP communication protocol (the packet-based, connectionless User Datagram Protocol that supports IPv6). Tivoli® Management Services reserves a default well-known port for the first process started on a system (normally, the monitoring server). For monitoring agents and other components, an algorithm based on the port number assigned to the monitoring server calculates the listening port to reserve. A port number cannot be assigned to a component if it is already reserved for another component or application.

The default listening port number for the monitoring server for IP6.UDP is 1918 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter. You might find it necessary to change the setting under some conditions; for example, when the port assigned to a component by the algorithm is already reserved by another application or component. For a remote Tivoli Enterprise Monitoring Server, the port number must be the same as that of the hub.

For detailed information about assigning port numbers, see [“Port number assignments” on page 150](#).

This parameter is required if you specified IP6.UDP as a communication protocol for the Tivoli Enterprise Monitoring Server.

### Default value

1918 or the value set for the [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#) parameter

### Permissible values

1 - 65535

### Related parameters

- [“RTE\\_TCP\\_PORT\\_NUM” on page 289](#)
- [“KDS\\_TEMS\\_TCP\\_HOST” on page 1412](#)
- [“KDS\\_TEMS\\_COMM\\_PROTOCOLn” on page 1395](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)
- **KDS\_X\_HUB\_\*** parameters (values for the Standby HUB TEMS that the z/OS Remote TEMS connects to)

## KDS\_TEMS\_TYPE

This parameter specifies whether to configure a Tivoli Enterprise Monitoring Server as a hub monitoring server or a remote monitoring server.

### Description

This parameter specifies whether to configure a monitoring server as a hub monitoring server or a remote monitoring server

The hub monitoring server is the focal point for the entire monitoring environment. This server is under a significant load. Work on the hub includes communicating with remote monitoring servers, with the Tivoli® Enterprise Portal Server, and with local monitoring agents; authenticating users; consolidating and distributing data; storing and tracking situations and policies; and initiating and tracking all generated Take Action commands.

Remote monitoring servers communicate only with the monitoring agents that report to them and with the hub monitoring server to which they report. Note that a remote monitoring server is remote with respect to the hub monitoring server, not necessarily with respect to the monitoring agents. If monitoring agents are installed on the same system as a remote monitoring server, that monitoring server is local to the monitoring agents but remote to the hub.

The load on remote monitoring servers is typically low. Load is driven higher if historical data collection is performed on the monitoring servers instead of on the monitoring agents.

**Default value**

HUB

**Permissible values**

HUB, REMOTE

**Related parameters**

- [“KDS\\_TEMS\\_HA\\_TYPE” on page 1402](#)

## KDS\_TEMS\_VTAM\_APPL\_GLB\_BROKER

This parameter contains the VTAM® applid for the global location broker.

**Required or optional**

Required for the hub if SNA is one of the selected communication protocols

**Location where the parameter value is stored**

CTDDSN member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the hub

**PARMGEN name**

KDS\_TEMS\_VTAM\_APPL\_GLB\_BROKER

**Description**

VTAM® applid for the global location broker. The value is recorded in the VTAM® major node created for the hub.

**Related parameters**

- [“KDS\\_HUB\\_VTAM\\_APPL\\_GLB\\_BROKER” on page 1377](#)
- [“KDS\\_PH\\_TEMS\\_VTAM\\_APPL\\_GLB\\_BROKER” on page 1390](#)

## KDS\_TEMS\_VTAM\_APPL\_KDS\_VTAMID

This parameter contains the primary VTAM® applid for the Tivoli® Enterprise Monitoring Server.

**Required or optional**

Required for SNA communications

**Location where the parameter value is stored**

KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

**Parameter name**

KDS\_VTAMID

**Default value**

CTDDSDS

**Permissible values**

Character string, maximum length 8

**PARMGEN name**

KDS\_TEMS\_VTAM\_APPL\_KDS\_VTAMID

**Description**

Primary VTAM® **applid** for the Tivoli Enterprise Monitoring Server.

**Related parameters**

None

## KDS\_TEMS\_VTAM\_APPL\_LL\_BROKER

This parameter contains the VTAM® applid for the local location broker.

### Required or optional

Required for SNA communications

### Location where the parameter value is stored

KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

### Parameter name

KDCFC\_ALIAS

### Default value

CTDDSLB

### Permissible values

Character string, maximum length 8

### PARMGEN name

KDS\_TEMS\_VTAM\_APPL\_LL\_BROKER

### Description

VTAM® applid for the local location broker.

### Related parameters

- [“KDS\\_TEMS\\_VTAM\\_APPL\\_PREFIX” on page 1419](#)

## KDS\_TEMS\_VTAM\_APPL\_PREFIX

This parameter defines a prefix for VTAM® application names that are used for communication with the monitoring server.

### Required or optional

Required for SNA communications

### Location where the parameter value is stored

The parameter value is not stored, but is used for internal processing.

### PARMGEN name

KDS\_TEMS\_VTAM\_APPL\_PREFIX

### Description

This value defines a prefix for VTAM® application names that are used for communication with the monitoring server. These application names begin with the prefix, and end with a specific value that makes each applid unique. The names (applids) are contained in the VTAM® major node.

### Related parameters

- [“RTE\\_VTAM\\_APPLID\\_PREFIX” on page 1362](#)

## KDS\_TEMS\_VTAM\_LU62\_DLOGMOD

This parameter defines LU6.2 logmode for the Tivoli® Enterprise Monitoring Server.

### Required or optional

Required for SNA communications

### Location where the parameter value is stored

CTDDSN member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the Tivoli Enterprise Monitoring Server

### PARMGEN name

KDS\_TEMS\_VTAM\_LU62\_DLOGMOD

**Description**

LU6.2 logmode for the Tivoli Enterprise Monitoring Server.

**Related parameters**

- [“RTE\\_VTAM\\_LU62\\_DLOGMOD” on page 1363](#)
- [“KDS\\_PH\\_TEMS\\_VTAM\\_LU62\\_DLOGMOD” on page 1390](#)

**KDS\_TEMS\_VTAM\_LU62\_MODETAB**

This parameter contains the name of the logmode table containing the LU6.2 logmode entry for the Tivoli® Enterprise Monitoring Server.

**Required or optional**

Required for SNA communications

**Location where the parameter value is stored**

CTDDSN member of the *rhilev.rte.RKANSAMU* library for the runtime environment of the Tivoli Enterprise Monitoring Server

**PARMGEN name**

KDS\_TEMS\_VTAM\_LU62\_MODETAB

**Description**

Name of the logmode table containing the LU6.2 logmode entry for the Tivoli® Enterprise Monitoring Server.

**Related parameters**

- [“RTE\\_VTAM\\_LU62\\_MODETAB” on page 1363](#)

**KDS\_TEMS\_VTAM\_NETID**

This parameter contains the VTAM® network identifier, as defined in the NETID parameter of the VTAMLST startup member (ATCSTR*nn*).

**Required or optional**

Required for SNA communications

**Location where the parameter value is stored**

CTDDSN member of the *rhilev.rte.RKANSAMU* library for the runtime environment of the Tivoli Enterprise Monitoring Server

**PARMGEN name**

KDS\_TEMS\_VTAM\_NETID

**Description**

VTAM® network identifier, as defined in the NETID parameter of the VTAMLST startup member (ATCSTR*nn*).

**Related parameters**

- [“RTE\\_VTAM\\_NETID” on page 1363](#)
- [“RTE\\_SYSV\\_VTAM\\_NETID” on page 1354](#)
- [“KDS\\_PH\\_TEMS\\_VTAM\\_NETID” on page 1390](#)

**KDS\_TEMS\_VTAM\_NODE**

This parameter contains the name of the VTAM® major node for the Tivoli Enterprise Monitoring Server.

**Required or optional**

Required for SNA communications

**Location where the parameter value is stored**

CTDDSN member of the *rhilev.rte*.RKANSAMU library for the runtime environment of the Tivoli Enterprise Monitoring Server

**PARMGEN name**

KDS\_TEMS\_VTAM\_NODE

**Description**

Name of the VTAM® major node for the Tivoli Enterprise Monitoring Server.

**Related parameters**

- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)

## KDS\_X\_HUB\_BKUP1\_TCP\_HOST

This parameter specifies the TCP/IP host name or IP address of the non-z/OS backup hub TEMS that the z/OS remote TEMS connects to if the primary hub TEMS is unavailable.

**Description**

This parameter is used for configuring the z/OS remote TEMS to participate in a *hot standby* configuration with a non-z/OS (distributed) hub TEMS that has been enabled for Fault Tolerant Option (FTO). Specify the TCP/IP host name or IP address where the non-z/OS backup (standby) hub TEMS is running.

This parameter is required if you plan to have the z/OS remote TEMS communicate with the non-z/OS backup hub TEMS using TCP/IP. An IP-related protocol must be enabled.

**Default value**

None

**Permissible values**

Character string, maximum length 32

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the primary hub TEMS that the z/OS remote TEMS reports to)

## KDS\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID

This parameter specifies the identifier of your VTAM network.

**Required or optional**

Required only if you plan to have the Remote TEMS communicate with the backup Hub TEMS using VTAM

**Location where the parameter value is stored**

In the VTAMLST startup member, ATCSTRnn for the backup Hub monitoring server

**Parameter name and syntax**

SNA.PIPE:&XDSBNETD

**Default value**

No default

**Permissible values**

A string of up to 8 characters

**PARMGEN name**

KDS\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID

**Description**

TEMS backup Sever Network ID

This parameter specifies the identifier of your VTAM network. You can locate this value on the NETID parameter within the VTAMLST startup member, ATCSTRnn. This is a required field if you plan to have the Remote TEMS communicate with the backup Hub TEMS using VTAM.

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBBKR

This parameter identifies the global location broker that is to be used for VTAM communication to the backup monitoring server.

### Required or optional

Required if the remote TEMS needs to communicate with the backup Hub TEMS using the VTAM protocol

### Location where the parameter value is stored

The KDCSSITE member of the RKANPARU library.

### Parameter name and syntax

SNA.PIPE:

### Default value

No default

### Permissible values

A character string of up to 8 characters

### PARMGEN name

KDS\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBBKR

### Description

TEMS backup VTAM applid for the global location broker.

This parameter identifies the global location broker that is to be used for VTAM communication to the backup monitoring server. This is a required field if the remote TEMS needs to communicate with the backup Hub TEMS using the VTAM protocol.

### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_HUB\_CMS\_FTO\_FLAG

This is the Hot Standby flag if the z/OS Remote TEMS will participate in Hot Standby configuration between distributed Hub TEMS enabled for FTO (Fault Tolerant Option).

### Required or optional

Optional

### Location where the parameter value is stored

The KDSENV member of the xKANPARU library.

### Parameter name and syntax

CMS\_FTO=&XDSBFTO

### Default value

No

### Permissible values

YES, NO

### PARMGEN name

KDS\_X\_HUB\_CMS\_FTO\_FLAG

### Description

This parameter is applicable to a z/OS Remote TEMS based on these scenarios:

- z/OS Remote TEMS connecting to a non-z/OS Hub TEMS with the Hot Standby (FTO) feature enabled.
- z/OS Remote TEMS connecting to a z/OS High Availability (HA) Hub TEMS (Primary TEMS) and a z/OS HA Hub TEMS (Standby TEMS).

If KDS\_X\_HUB\_CMS\_FTO\_FLAG is enabled to "YES" value, it generates CMS\_FTO=YES value in the xKANPARU(KDSENV) TEMS runtime member.

### Related parameters

- “KDS\_X\_HUB\_BKUP1\_TCP\_HOST” on [page 1421](#) (if IP-related protocol is enabled)
- “KDS\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID” on [page 1421](#) (if SNA protocol is enabled)
- “KDS\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBKBR” on [page 1422](#) (if SNA protocol is enabled)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_KDCFC\_RXLIMIT

This parameter defines the size (in KB) of the buffer used for return queries.

### Required or optional

Required

### Location where the parameter value is stored

KDSENV member of the *rhilev.rte*.RKANPARU library for the runtime environment of the hub monitoring server.

### Parameter name and syntax

KDCFC\_RXLIMIT=8192

### Default value

8192

### Permissible values

1024–65536

### PARMGEN name

KDS\_X\_KDCFC\_RXLIMIT

### Description

RPC request size

This parameter defines the size (in KB) of the buffer used for return queries.

### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS

This parameter allows you to limit connections to a specific range of port numbers.

### Description

This parameter specifies a range of pool numbers. After the port allocation algorithm assigns a well-known port to each process, all subsequent ports that are allocated for connections between components are opaque ports; that is, any available port can be allocated for a connection. You can limit opaque port allocations to a specific range of ports by using this parameter for Tivoli Enterprise Monitoring Server (TEMS).

You can use the POOL option, as described in [“Using the POOL option to set a range of port numbers” on page 152](#), with this parameter too.

### Required or optional

Optional

### Default value

None

### Permissible values

The POOL option must specify a range of ports no smaller than 2 and no larger than 1024 in the format *nnnn-nnnn*.

### Example:

POOL:1000-2023 is valid; POOL:1000-2024 is not.

If more than 1024 ports are needed in a pool for a specific protocol, you can specify more than one POOL option, as in POOL:1000-2023 POOL:3000-4023.

#### Related parameters

- [“KDS\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS” on page 1425](#)
- [“Kpp\\_X\\_KDE\\_TRANSPORT\\_GBL\\_OPTIONS” on page 1309](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS

This parameter redefines the ports to be used by the HTTP and HTTPS daemons.

#### Description

This parameter redefines the ports to be used by the HTTP and HTTPS daemons. A portal server on Windows, Linux, or UNIX uses port 1920 for HTTP connections and 3661 for HTTPS connections from portal browser clients.

Default port settings should not be changed, especially on multifunction UNIX and Linux systems, since many components might be located on the same system and some of these components might depend on the default values being used for HTTP and HTTPS ports.

The following special settings are supported:

#### HTTPS:0

This setting eliminates error messages when the HTTPS daemon server is active and failing to obtain or bind to family ip.ssl (ip.ssl.https:3661).

#### HTTP:0, HTTPS:0

These settings disable port allocation and port bind errors for the HTTP (1920) and HTTPS (3661) default ports.

#### HTTP\_SERVER:n

This variable keyword disables HTTP and HTTPS daemon services. Do not specify this for a hub monitoring server or for the portal server.

#### HTTP\_CONSOLE:n

This variable keyword disables the TMS/Service Console facility of the HTTP daemon service.

#### HTTP\_CONSOLE:N

This variable keyword removes the process from the published Tivoli service index; this makes the process inaccessible from the TMS/Service Console.

#### Required or optional

Optional

#### Default value

None

#### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_KDE\_TRANSPORT\_OPTIONS

This parameter allows you to specify various options for Tivoli Enterprise Monitoring Server (TEMS).

#### Description

With this parameter you can specify various options for TEMS, in addition to HTTP-related and POOL-related options.

For example, you can specify the [SKIP and COUNT options](#) to control the way port numbers are assigned to components.

See [“KDS\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS” on page 1424](#) for HTTP-related options and [“KDS\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS” on page 1425](#) for POOL-related options.

**Required or optional**

Optional

**Default value**

None

**Permissible values**

A string of up to 50 characters

**Related parameters**

- [“KDS\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS” on page 1424](#)
- [“KDS\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS” on page 1425](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

**KDS\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS**

This parameter allows you to limit connections to a specific range of port numbers.

**Description**

This parameter specifies a range of pool numbers.

After the port allocation algorithm assigns a well-known port to each process, all subsequent ports allocated for connections between components are opaque ports; that is, any available port can be allocated for a connection. You can limit opaque port allocations to a specific range of ports by using this parameter for Tivoli Enterprise Monitoring Server (TEMS).

With this parameter, you can use the POOL option, as described in [“Using the POOL option to set a range of port numbers” on page 152](#).

**Required or optional**

Optional

**Default value**

None

**Permissible values**

The POOL option must specify a range of ports no smaller than 2 and no larger than 1024 in the format *nnnn-nnnn*.

**Example:**

POOL:1000-2023 is valid; POOL:1000-2024 is not.

If more than 1024 ports are needed in a pool for a specific protocol, you can specify more than one POOL option, as in POOL:1000-2023 POOL:3000-4023.

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

**KDS\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG**

This parameter is used to specify whether to include the SYSTCPD DD statement in the monitoring server started task.

**Required or optional**

Required

**Location where the parameter value is stored**

N/A

**Parameter name and syntax**

N/A

**Default value**

Y

**Permissible values**

Y or N

**PARMGEN name**

KDS\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG

**Description**

This flag is for the SYSTCPD DD: TCPDATA override. Override this DD card to explicitly identify which dataset to use to obtain the parameters defined by TCPIP.DATA when no GLOBALTCPDATA statement is configured. Refer to the *IBM z/OS Communications Server: IP Configuration Guide* for information on the TCPIP.DATA search order. TCPIP.SEZAINST(TCPDATA) is the default sample file. TCPIP.TCPPARMS(TCPDATA) is another sample and is created as part of the Installation Verification Program (IVP) for TCP/IP. To customize this value in PARMGEN mode, override this parameter in the CONFIG profile member in WCONFIG (\$CFG\$USR or the user-specified) prior to running the \$PARSE job and specify the GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA library accordingly.

**Related parameters**

- [“GBL\\_DSN\\_TCP\\_SYSTCPD\\_TCPDATA” on page 1327](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_CONFIRM\_SHUTDOWN

This parameter specifies the maximum number of seconds between two successive SHUTDOWN commands or MVS™ STOP (P) commands to terminate the monitoring server address space.

**Required or optional**

Required

**Location where the parameter value is stored**

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

**Parameter name and syntax**

CONFIRM(*n*)

**Default value**

- Default for PARMGEN: CONFIRM(0)
- Default in TMS:Engine: CONFIRM(15)

**Permissible values**

0 - 2000000000

**PARMGEN name**

KDS\_X\_TEMS\_CONFIRM\_SHUTDOWN

**Description**

Maximum number of seconds between two successive SHUTDOWN commands or MVS™ STOP (P) commands to terminate the monitoring server address space. CONFIRM(0) allows shutdown to begin immediately, without an additional, confirming SHUTDOWN command. CONFIRM(*n*), where *n* is a number greater than zero, prevents accidental shutdowns by requiring confirmation of the command by entering it a second time within the specified number of seconds. For example, the value 15 requires that the SHUTDOWN command be entered twice within 15 seconds to terminate the monitoring server address space.

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_DEBUG\_TRACE

This parameter determines whether to activate TMS:Engine debugging services.

**Required or optional**

Optional

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

### Parameter name and syntax

DEBUG(N|Y)

### Default value

DEBUG(N)

### Permissible values

DEBUG(N) or DEBUG(Y)

### PARMGEN name

KDS\_X\_TEMS\_DEBUG\_TRACE

### Description

Determines whether to activate TMS:Engine debugging services. A setting of Y automatically turns on the internal trace with the default number of entries (1024), resulting in an increase in CPU use, storage use, and number of messages issued. The amount of increase depends on the activity in the Tivoli Enterprise Monitoring Server address space.

The setting for this parameter and the setting for the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter interact.

- If the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is included (not commented out and not deleted), the [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) parameter must precede it. Otherwise, [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) overrides [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#).
- If the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is commented out or omitted, and the setting for [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is Y, basic storage debugging is turned on, causing an increase in storage use.
- If the setting for the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is N, and the setting for [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is Y, no storage debugging is performed.
- If the setting for the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is Y or X, and the setting for [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is N, storage debugging is performed, but no other debugging is performed.

### Related parameters

- [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_EIF\_BUFFEREVENTS

This parameter determines whether event buffering is enabled.

### Description

This parameter determines whether event buffering is enabled. A value of YES stores events in the library specified by the [“KDS\\_X\\_TEMS\\_EIF\\_BUFVTPATH” on page 1428](#) parameter. A value of NO does not store or buffer events.

### Default value

YES

### Permissible values

YES, NO

### Related parameters

- [“KDS\\_X\\_TEMS\\_EIF\\_BUFVTPATH” on page 1428](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS{EIF\_BUFEVTPATH

This parameter contains the path name of the adapter cache file.

### Description

Specify the path name of the adapter cache file. The format is similar to a data set name that is limited to 5 levels with no more than 8 characters per level, separated by periods (for example, LEVEL001.LEVEL002.LEVEL003.LEVEL004.LEVEL005).

### Default value

./TECLIB/om\_tec.cache

### Permissible values

Character string, maximum length 44

### Related parameters

- [“KDS\\_X\\_TEMS{EIF\\_BUFFEREVENTS” on page 1427](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS{EIF\_FILTER\_ATTR1

This parameter contains the name of a filter attribute.

### Description

Specify a filter attribute for the class. An event matches a filter statement when each attribute=value pair in the filter statement is identical to the corresponding attribute=value pair in the event. A filter statement must contain the event class, and optionally can include any other attribute=value pair that is defined for the event class.

The format of a filtering statement is as follows:

```
Filter:Class=class_name;attribute=value;..;attribute=value
```

Each statement must be on a single line. The attribute=value pair is case-sensitive.

### Default value

master\_reset\_flag=''

### Permissible values

Character string, maximum length 27

### Related parameters

- [“KDS\\_X\\_TEMS{EIF\\_FILTER\\_CLASS1” on page 1428](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS{EIF\_FILTER\_CLASS1

This parameter contains the name of the event class for a filter.

### Description

Specify the event class for the filter. A filter statement must contain the event class.

The format of a filter statement is as follows:

```
Filter:Class=class_name;attribute=value;..;attribute=value
```

Each statement must be on a single line.

### Default value

ITM\_Generic

### Permissible values

Character string, maximum length 27

### Related parameters

- “KDS\_X\_TEMS\_EIF\_FILTER\_ATTR1” on page 1428
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_EIF\_FILTERMODE

This parameter determines whether events that match a Filter or FilterCache statement are sent to the event server (`FilterMode=IN`) or discarded (`FilterMode=OUT`).

### Required or optional

Optional

### Location where the parameter value is stored

KMSOMTEC member of the *rhilev.rte*.RKANPARU library for the runtime environment of the Tivoli Enterprise Monitoring Server

#### Parameter name

FilterMode

#### Default value

OUT

#### Permissible values

IN or OUT

### Batch parameter name

KDS\_CMS\_EIF\_FLT\_MODE

### PARMGEN name

KDS\_X\_TEMS\_EIF\_FILTERMODE

### Description

Determines whether events that match a Filter or FilterCache statement are sent to the event server (`FilterMode=IN`) or discarded (`FilterMode=OUT`). If you set `FilterMode=IN`, you must have one or more Filter and FilterCache statements defined.

### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_FRAME\_STACK\_SIZE

This parameter defines the size (in bytes) of the initial save area stack that TMS:Engine allocates for each of its tasks.

### Required or optional

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

#### Parameter name and syntax

FRAME(*n*)

#### Default value

- Default for PARMGEN: FRAME(1025)
- Default in TMS:Engine: FRAME(512)

#### Permissible values

Do not change the value from the default except under the guidance of IBM® Software Support.

### PARMGEN name

KDS\_X\_TEMS\_FRAME\_STACK\_SIZE

**Description**

Size (in bytes) of the initial save area stack that TMS:Engine allocates for each of its tasks.

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

**KDS\_X\_TEMS\_KDSSTRT1\_DELAY\_INT**

This parameter controls the delay before the Tivoli Enterprise Monitoring Server issues the IRAMAN commands included in the `xKANCMDU(KDSSTRT1)` member after it starts up.

**Description**

This parameter is used to control the amount of time the monitoring server delays before issuing the startup commands for agents, including the OMEGAMON enhanced 3270 user interface Data Retrieval Agent (DRA), that are included in the `xKANCMDU(KDSSTRT1)` member. The following KDSSTART command is issued based on the delay you specify:

```
"AT ADD ID=DELAYAPP DELAY=&seconds CMD='KDSSTRT1' "
```

**Default value**

180 seconds

**Permissible values**

Number, maximum length 5

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the primary hub TEMS that the z/OS remote TEMS reports to)

**KDS\_X\_TEMS\_LGSA\_VERIFY**

This parameter determines whether TMS:Engine checks that the \$GSA address is available.

**Required or optional**

Required

**Location where the parameter value is stored**

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

**Parameter name and syntax**

LGSA(Y|N)

**Default value**

LGSA(Y)

**Permissible values**

Do not change the value from the default except under the guidance of IBM® Software Support.

**PARMGEN name**

KDS\_X\_TEMS\_LGSA\_VERIFY

**Description**

Determines whether TMS:Engine checks that the \$GSA address is available.

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

**KDS\_X\_TEMS\_LOGBLOCK\_RKLVLOG\_SIZE**

This parameter defines the block size, in bytes, of the RKLVLOG file.

**Required or optional**

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

#### Parameter name and syntax

LOGBLOCK(*n*)

#### Default value

- Default for PARMGEN: LOGBLOCK(12480)
- Default in TMS:Engine: LOGBLOCK(3120)

#### Permissible values

Do not change the value from the default except under the guidance of IBM® Software Support.

### PARMGEN name

KDS\_X\_TEMS\_LOGBLOCK\_RKLVLOG\_SIZE

### Description

Block size, in bytes, of the RKLVLOG file.

### Related parameters

- [“KDS\\_X\\_TEMS\\_LOGBUFS\\_RKLVLOG\\_BUFSZ” on page 1431](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_LOGBUFS\_RKLVLOG\_BUFSZ

This parameter defines the number of buffers to allocate for the RKLVLOG file.

### Required or optional

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

#### Parameter name and syntax

LOGBUFS(*n*)

#### Default value

- Default for PARMGEN: LOGBUFS(5)
- Default in TMS:Engine: LOGBUFS(2)

#### Permissible values

Do not change the value from the default except under the guidance of IBM® Software Support.

### PARMGEN name

KDS\_X\_TEMS\_LOGBUFS\_RKLVLOG\_BUFSZ

### Description

Number of buffers to allocate for the RKLVLOG file. If the value of LOGBUFS is too small and extensive logging is performed (for example, during debugging), excessive physical I/O can increase response time. If the value of LOGBUFS is too large, storage shortages can occur.

### Related parameters

- [“KDS\\_X\\_TEMS\\_LOGBLOCK\\_RKLVLOG\\_SIZE” on page 1430](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_LSRPOOL\_BUFFER\_NUM*n*

This parameter specifies the number of virtual storage buffers, of the size specified in the KDS\_X\_TEMS\_LSRPOOL\_BUFSIZE*n* parameter, to be allocated for buffer pool *n* in the VSAM resource pool.

## Required or optional

Required

## Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

## Parameter name and syntax

LSRPOOL(*size, number*)

## Default value

- Default for PARMGEN: See the example in the Description section.
- Default in TMS:Engine: No default value, but starting TMS:Engine requires at least one LSRPOOL parameter.

## Permissible values

3 - 65535 (to the maximum amount of available virtual storage in the monitoring server address space)

## PARMGEN name

KDS\_X\_TEMMS\_LSRPOOL\_BUFFER\_NUM*n*

## Description

Number of virtual storage buffers, of the size specified in the KDS\_X\_TEMMS\_LSRPOOL\_BUFSIZE*n* parameter, to be allocated for buffer pool *n* in the VSAM resource pool. You must specify a number for each buffer pool individually; you cannot string the definitions together.

Example:

```
KDS_X_TEMMS_LSRPOOL_BUFSIZE1      32768
KDS_X_TEMMS_LSRPOOL_BUFFER_NUM1    12
KDS_X_TEMMS_LSRPOOL_BUFSIZE2      8192
KDS_X_TEMMS_LSRPOOL_BUFFER_NUM2    21
KDS_X_TEMMS_LSRPOOL_BUFSIZE3      4096
KDS_X_TEMMS_LSRPOOL_BUFFER_NUM3    400
KDS_X_TEMMS_LSRPOOL_BUFSIZE4      1024
KDS_X_TEMMS_LSRPOOL_BUFFER_NUM4     6
```

If you receive KLVVS026 messages identifying buffer contention, increase the number of buffers allocated to the data set identified in the associated KLVVS021 messages.

## Related parameters

- [“KDS\\_X\\_TEMMS\\_LSRPOOL\\_BUFSIZE\*n\*” on page 1432](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMMS that the z/OS Remote TEMMS reports to)

## KDS\_X\_TEMMS\_LSRPOOL\_BUFSIZE*n*

This parameter specifies the size (in bytes) of each virtual storage buffer in buffer pool *n* in the VSAM resource pool.

## Required or optional

Required

## Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

## Parameter name and syntax

LSRPOOL(*size, number*)

## Default value

- Default for the Configuration Manager and PARMGEN: See the example in the Description section.
- Default in TMS:Engine: No default value, but starting TMS:Engine requires at least one LSRPOOL parameter.

## Permissible values

512, 1024, 2048, 4096, 8192, 12288, 16384, 20480, 24576, 28672, or 32768

### PARMGEN name

KDS\_X\_TEMS\_LSRPOOL\_BUFSIZE $n$

### Description

Size (in bytes) of each virtual storage buffer in buffer pool  $n$  in the VSAM resource pool. You must specify a size for each buffer pool individually; you cannot string the definitions together.

Example:

```
KDS_X_TEMS_LSRPOOL_BUFSIZE1      32768
KDS_X_TEMS_LSRPOOL_BUFFER_NUM1    12
KDS_X_TEMS_LSRPOOL_BUFSIZE2      8192
KDS_X_TEMS_LSRPOOL_BUFFER_NUM2    21
KDS_X_TEMS_LSRPOOL_BUFSIZE3      4096
KDS_X_TEMS_LSRPOOL_BUFFER_NUM3    400
KDS_X_TEMS_LSRPOOL_BUFSIZE4      1024
KDS_X_TEMS_LSRPOOL_BUFFER_NUM4    6
```

### Related parameters

- [“KDS\\_X\\_TEMS\\_LSRPOOL\\_BUFFER\\_NUM \$n\$ ” on page 1431](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_LSRSTRNO\_CONCURRENT

This parameter specifies the maximum number of concurrent VSAM requests that TMS:Engine can process against all the VSAM data sets allocated to it.

### Required or optional

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

### Parameter name and syntax

LSRSTRNO( $n$ )

### Default value

- Default for the Configuration Manager and PARMGEN: LSTSTRNO(255)
- Default in TMS:Engine: LSTSTRNO(32)

### Permissible values

3 - 255

### PARMGEN name

KDS\_X\_TEMS\_LSRSTRNO\_CONCURRENT

### Description

Maximum number of concurrent VSAM requests that TMS:Engine can process against all the VSAM data sets allocated to it.

If you receive KLVVS026 messages identifying string contention and if the LSRSTRNO value is less than 255, increase the value.

### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_SDUMP\_SVC\_SYS1\_DUMP

This parameter determines whether SVC dumps are generated.

### Required or optional

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

**Parameter name and syntax**

SDUMP(Y|N)

**Default value**

SDUMP(Y) if the TMS:Engine job step is APF-authorized; SDUMP(N) otherwise.

**Permissible values**

Y, N, S, or M (see Description)

**PARMGEN name**

KDS\_X\_TEMS\_SDUMP\_SVC\_SYS1\_DUMP

**Description**

Determines whether SVC dumps are generated.

- Y directs SVC dumps to a system dump data set (SYS1.DUMPxx). Before you specify Y as the value of this parameter, ensure that the TMS:Engine job step is APF-authorized and that the SYS1.DUMPxx data sets are large enough to hold the contents of the TMS:Engine address space.
- N directs formatted dumps to the RKLVSnap data set. Avoid formatted dumps if possible, because they disable the TMS:Engine address space for a longer time than either SVC dumps or SYSMDUMPs, and are more difficult to analyze.
- S directs summary dumps to the RKLVSnap data set. A summary dump consists of an ABEND summary and a dispatcher summary, and does not provide enough information for reliable problem analysis. Use this setting for specific testing purposes only.
- M directs ABEND dumps to a data set with the SYSMDUMP DD name. This type of dump is not formatted by the operating system and must be analyzed with IPCS. Only the first dump taken is captured in the SYSMDUMP data set unless the JCL specifies DISP=MOD. TMS:Engine automatically initializes the SYSMDUMP data set with an end-of-file mark.

**Related parameters**

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

**KDS\_X\_TEMS\_STORAGE\_RESERVE\_PRI**

This parameter specifies the number of kilobytes of primary (below-the-line) storage to set aside for other routines (for example, RACF®) that might perform their own GETMAINS in the monitoring server address space.

**Required or optional**

Required

**Location where the parameter value is stored**

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

**Parameter name**

RESERVE(n,P)

**Default value**

- Default for the Configuration Manager and PARMGEN:
  - High-availability hub: RESERVE(4096,P)
  - Other monitoring servers: RESERVE(2048,P)
- Default in TMS:Engine: RESERVE(512,P)

**Permissible values**

See Description.

**PARMGEN name**

KDS\_X\_TEMS\_STORAGE\_RESERVE\_PRI

**Description**

The number of kilobytes of primary (below-the-line) storage to set aside for other routines (for example, RACF®) that might perform their own GETMAINS in the monitoring server address space. If your RESERVE value is too small, you might encounter IST566I messages from VTAM® or S80A, S878, S066, S40D, or S0F9 abends.

#### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_STORAGE\_STGDEBUG

This parameter determines whether to disable (N) TMS:Engine storage debugging services, or to activate basic (Y) or extended (X) storage debugging services.

#### Required or optional

Optional

#### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte*.RKANPARU library for the runtime environment of the monitoring server

#### Parameter name and syntax

STGDEBUG(N|Y|X)

#### Default value

STGDEBUG(N)

#### Permissible values

STGDEBUG(N), STGDEBUG(Y), or STGDEBUG(X)

#### PARMGEN name

KDS\_X\_TEMS\_STORAGE\_STGDEBUG

#### Description

Determines whether to disable (N) TMS:Engine storage debugging services, or to activate basic (Y) or extended (X) storage debugging services. A setting of Y or X increases storage use; X causes a larger increase than Y.

The setting for this parameter and the setting for the [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) parameter interact.

- If the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is included (not commented out and not deleted), the [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) parameter must precede it. Otherwise, [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) overrides [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#).
- The default setting for the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is N if the [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) parameter is commented out or omitted, or if the value of the [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) parameter is N; and Y if the value of [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is Y.
- If the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is commented out or omitted, and the setting for [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is Y, basic storage debugging is turned on, causing an increase in storage use.
- If the setting for the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is N, and the setting for [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is Y, no storage debugging is performed.
- If the setting for the [“KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG” on page 1435](#) parameter is Y or X, and the setting for [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#) is N, storage debugging is performed, but no other debugging is performed.

#### Related parameters

- [“KDS\\_X\\_TEMS\\_DEBUG\\_TRACE” on page 1426](#)
- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_TASKS\_ATTACHED\_NUM

This parameter specifies the number of general-purpose subtasks to be attached in the monitoring server address space.

### Required or optional

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

### Parameter name and syntax

TASKS(*n*)

### Default value

The number of available processors.

### Permissible values

Do not change the value from the default except under the guidance of IBM® Software Support.

### PARMGEN name

KDS\_X\_TEMS\_TASKS\_ATTACHED\_NUM

### Description

Number of general-purpose subtasks to be attached in the monitoring server address space. If the monitoring server is running on a multiprocessor, the TASKS default increases both throughput and CPU usage.

### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## KDS\_X\_TEMS\_WTO

This parameter determines whether the monitoring server address space issues Write To Operator (WTO) messages.

### Required or optional

Required

### Location where the parameter value is stored

KDSSYSIN member of the *rhilev.rte.RKANPARU* library for the runtime environment of the monitoring server

### Parameter name and syntax

WTO(Y|N)

### Default value

WTO(N)

### Permissible values

Y or N

### PARMGEN name

KDS\_X\_TEMS\_WTO

### Description

Determines whether the monitoring server address space issues Write To Operator (WTO) messages. WTOs write information and exception condition messages to the operator consoles. Alert messages are always written to the consoles.

### Related parameters

- **KDS\_HUB\_\*** parameters (values for the Primary HUB TEMS that the z/OS Remote TEMS reports to)

## Enhanced 3270 user interface parameters

The OMEGAMON enhanced 3270 user interface has its own set of common configuration parameters, each of which begins with "KOB".

The KOB parameters are related to the following parameters, described elsewhere in this reference:

- [“KDS\\_TEMS\\_DRA\\_FLAG” on page 1397](#)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)

### KOB\_MT\_ENABLE

This parameter is used to enable multi-tenancy mode in the enhanced 3270 user interface.

#### Description

This parameter controls if multi-tenancy mode is enabled in the enhanced 3270 user interface. Set this parameter to Y to enable multi-tenancy mode.

This parameter sets the value of the **MULTI** parameter in the job step of the started task JCL for the enhanced 3270 user interface.

#### Required or optional

Optional

#### Default value

N

#### Permissible values

Y, N

### KOB\_TIMEOUT

This parameter controls the OMEGAMON enhanced 3270 user interface user session timeout value.

#### Description

This parameter controls the maximum number of minutes that a user session of the OMEGAMON enhanced 3270 user interface can be idle before the session is canceled.

The timeout value is in minutes, and 0 indicates that the session will not be timed out.

#### Required or optional

Optional

#### Default value

0

#### Minimum

0

#### Maximum

999

### KOB\_TOM\_STC

This parameter is the name of the started task for the OMEGAMON enhanced 3270 user interface.

#### Required or optional

Required if you configure the OMEGAMON enhanced 3270 user interface component.

#### Location where the parameter value is stored

Value becomes the name of the started task procedure member in the *rhilev.rtename*.RKANSAMU library.

#### Parameter name and syntax

N/A

**Default value**

IBMTOM

**Permissible values**

Character string, maximum length 8.

**PARMGEN name**

KOB\_TOM\_STC

**Description**

This parameter is the name of the started task that starts the OMEGAMON enhanced 3270 user interface's Tivoli OMEGAMON Manager (TOM). The default in PARMGEN is IBMTOM.

**Related parameters**

- [“KDS\\_TEMS\\_DRA\\_FLAG” on page 1397](#)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)
- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)

## KOB\_TOM\_VTAM\_APPL\_LOGON

This parameter specifies the name that will be used to build the VTAM logon APPLID for the OMEGAMON enhanced 3270 user interface's Tivoli OMEGAMON Manager (CTDOBN).

**Required or optional**

Required if you configure the OMEGAMON enhanced 3270 user interface component.

**Location where the parameter value is stored**

Value is included in the VTAM major node member in the *rhilev.rtename*.RKANSAMU library or in the RTE\_VTAM\_GBL\_MAJOR\_NODE member in RKANSAMU.

**Parameter name and syntax**

N/A

**Default value**

CTDOBAP

**Permissible values**

Character string, maximum length 8.

**PARMGEN name**

KOB\_TOM\_VTAM\_APPL\_LOGON

**Description**

This parameter specifies the VTAM logon APPLID for the OMEGAMON enhanced 3270 user interface address space.

**Note:** If you use the global VTAM major node member specified on the RTE\_VTAM\_GBL\_MAJOR\_NODE parameter, the VTAM APPLID associated with CTDOBN is automatically included in the RTE\_VTAM\_GBL\_MAJOR\_NODE member in RKANSAMU.

**Related parameters**

- [“KDS\\_TEMS\\_DRA\\_FLAG” on page 1397](#)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)
- [“KOB\\_TOM\\_STC” on page 1437](#)

- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)

## KOB\_TOM\_VTAM\_NODE

This parameter specifies the name used to build the VTAM node entry for the OMEGAMON enhanced 3270 user interface.

### Required or optional

Required if you configure the OMEGAMON enhanced 3270 user interface component.

### Location where the parameter value is stored

Value specified becomes the name of the TOM VTAM major node member in the *rhilev.rtename*.RKANSAMU library.

### Parameter name and syntax

N/A

### Default value

CTDOBN

### Permissible values

Character string, maximum length 8.

### PARMGEN name

KOB\_TOM\_VTAM\_NODE

### Description

This parameter specifies the name used to build the VTAM node entry for the OMEGAMON enhanced 3270 user interface's Tivoli OMEGAMON Manager (CTDOBN).

**Note:** If you use the global VTAM major node member specified on the RTE\_VTAM\_GBL\_MAJOR\_NODE parameter, the VTAM APPLID associated with CTDOBN is automatically included in the RTE\_VTAM\_GBL\_MAJOR\_NODE member in RKANSAMU.

### Related parameters

- [“KDS\\_TEMS\\_DRA\\_FLAG” on page 1397](#)
- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“RTE\\_VTAM\\_GBL\\_MAJOR\\_NODE” on page 1362](#)
- [“KOB\\_TOM\\_STC” on page 1437](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)

## Enhanced 3270 user interface override embed parameters

In addition to standard parameters, the enhanced 3270 user interface also uses override embed parameters.

OMEGAMON enhanced 3270 user interface override embed parameters are located in the EMBEDS (KOB\$PENV) member (Configuration Manager) or the WCONFIG (KOB\$PENV) member (PARMGEN). You must follow a standard override embed procedure to ensure the parameters are set properly in RKANPARU (KOBENV).

### Using Configuration Manager

For information about using override embed parameters in Configuration Manager, see the following topics:

- [“Using override embed members in Configuration Manager” on page 337](#)
  - [“Enable override embed members when creating an RTE” on page 338](#)
  - [“Enable override embed members for an existing RTE” on page 339](#)
  - [“Update override embed members for an existing RTE after maintenance” on page 340](#)

## Using PARMGEN

Perform the steps in the following procedures, as appropriate:

- For an existing runtime environment (RTE):
    - a. Edit `%RTE_PLIB_HILEV%.%RTE_NAME%.WCONFIG(&imbed_name)` referenced by the enabling product PTF or new product version. Modify the parameter accordingly before rerunning the `WCONFIG($PARSE)` job.
- Note:** The new default parameter is typically introduced in a PARMGEN APAR maintenance. For existing runtime environments created before the PARMGEN APAR that introduced the new parameter, the `WCONFIG(&imbed_name)` already exists. To enable the function, add the new override parameter to `WCONFIG(&imbed_name)`.
- b. Submit `WCONFIG($PARSEPR)` job to recreate the RTE's `%RTE_PLIB_HILEV%.%RTE_NAME%.WKANPARU(&runtime_member)` where the `&imbed_name` is imbedded.
    - c. Submit `WKANSAMU(KCIJPW2R)` job to refresh the `&runtime_member` from the PARMGEN work data set (`WKANPARU`, for example) to the corresponding product execution user library (`RKANPARU`, for example) when you are ready to stage your runtime member updates.
    - d. Recycle the product started task.
    - e. Repeat step 1 to step 4 for additional RTEs that will enable the function.
  - For a new runtime environment (RTE):
    - a. Follow the preferred RTE Implementation Scenario documented in [Implementation scenarios](#).
    - b. As part of the "Customizing the configuration profiles" step, edit `%RTE_PLIB_HILEV%.%RTE_NAME%.WCONFIG(&imbed_name)` that will override the `WKANPARU(&runtime_member)`. Modify the parameter accordingly before rerunning the `WCONFIG($PARSE)` job.
    - c. Complete the remaining steps as documented in the RTE Implementation Scenario.

For more information about using embed members in PARMGEN, see ["Override embed members" on page 417](#) and [Customizing the override embed members](#)

## FFDC\_DDNAME

This override embed parameter specifies the DD name of the data set containing the First-Failure Data Capture error code definitions.

### Description

This parameter specifies the DD name of the data set containing the First-Failure Data Capture (FFDC) repository of error code definitions. FFDC is a feature in the OMEGAMON enhanced 3270 user interface.

This parameter is in the `EMBEDS(KOB$PENV)` member (Configuration Manager) or the `WCONFIG(KOB$PENV)` member (PARMGEN). You must follow a standard override embed procedure to ensure the parameter is set properly in `RKANPARU(KOBENV)`.

### Default value

`RKOBPROF` (uses the `UKOBDATF` data set)

## FFDC\_ERROR\_CODES

This override embed parameter specifies the name of the member containing the First-Failure Data Capture error code definitions.

### Description

This parameter specifies the name of the member containing the First-Failure Data Capture (FFDC) repository for error code definitions. FFDC is a feature in the OMEGAMON enhanced 3270 user interface.

This parameter is in the EMBEDS(KOB\$PENV) member (Configuration Manager) or the WCONFIG(KOB\$PENV) member (PARMGEN). You must follow a standard override embed procedure to ensure the parameter is set properly in RKANPARU(KOBENV).

**Default value**

KOBFFDC

## KOB\_DRA\_BACKLOG

This parameter specifies the maximum number of queued connections for the OMEGAMON enhanced 3270 user interface data retrieval agent (DRA). This parameter must be added to the EMBEDS(Kpp\$PENV) member (Configuration Manager) or to the WCONFIG(Kpp\$PENV) member (PARMGEN) for the agent in the DRA. You must enable the parameter after adding it in the imbed.

**Description**

This parameter controls the number of incoming connections that can be queued for acceptance for the OMEGAMON enhanced 3270 user interface DRA. The parameter value is picked up after the DRA is restarted.

**Note:** The **KOB\_DRA\_BACKLOG** parameter value can be capped by the global TCP/IP profile configuration parameter **SOMAXCONN**. If the **KOB\_DRA\_BACKLOG** value exceeds the **SOMAXCONN** value, the **SOMAXCONN** value will be used instead.

**Required or optional**

Optional

**Default value**

30

**Permissible values**

10 - 250 (integer values)

## KOB\_SAF\_ACTION\_CLASS\_NAME

This parameter specifies a specific security class name that is to be employed for authorization of Take Action commands issued from the OMEGAMON enhanced 3270 user interface. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

**Required or optional**

Optional

**Location where the parameter value is stored**

The KOBENV member of RKANPARU.

**PARMGEN name**

KOB\_SAF\_ACTION\_CLASS\_NAME

**Description**

This parameter defaults to the RTE\_SECURITY\_CLASS parameter value. This parameter should only be specified if a unique security class name is required for Take Action authorization.

**Related parameters**

- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)
- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)
- [“KOB\\_SAF\\_LOGON\\_CLASS\\_NAME” on page 1442](#)
- [“KOB\\_SAF\\_QUERY\\_CLASS\\_NAME” on page 1443](#)

- [“KOB\\_SAF\\_LOGON\\_RESOURCE\\_PREFIX” on page 1443](#)

## KOB\_SAF\_APPLID

This parameter specifies the name of the optional SAF application ID for OMEGAMON enhanced 3270 user interface security.

### Description

This parameter specifies the name of the optional SAF application ID for OMEGAMON enhanced 3270 user interface security.

### Required or optional

Optional

### Location where the parameter value is stored

The KOBENV member of `rhilev.rte.RKANPARU`

### Default value

CANDLE

### Related parameters

- [RTE\\_SECURITY\\_CLASS](#)

## KOB\_SAF\_FAILURE

This parameter determines whether to echo security-related messages from the security product to the OMEGAMON enhanced 3270 user interface and SYSPRINT, as well as SYSLOG. You must use the respective configuration tool to enable (uncomment) the parameter in the EMBEDS(KOB\$PENV) member (Configuration Manager) or the WCONFIG(KOB\$PENV) member (PARMGEN).

### Description

This parameter determines whether to echo security-related messages from the security product to the OMEGAMON enhanced 3270 user interface and SYSPRINT, as well as SYSLOG.

### Permissible value

CONSOLE

## KOB\_SAF\_LOGON\_CLASS\_NAME

This parameter specifies a specific security class name that is to be employed for log-on authentication for the OMEGAMON enhanced 3270 user interface. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

### Required or optional

Optional

### Location where the parameter value is stored

The KOBENV member of `RKANPARU`.

### PARMGEN name

KOB\_SAF\_LOGON\_CLASS\_NAME

### Description

This parameter defaults to the `RTE_SECURITY_CLASS` parameter value. This parameter should only be specified if the `RTE_SECURITY_CLASS` is not being specified or a unique security class name is required for log-on authorization.

### Related parameters

- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)
- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)

- KOB\_SAF\_QUERY\_CLASS\_NAME
- KOB\_SAF\_ACTION\_CLASS\_NAME
- KOB\_SAF\_LOGON\_RESOURCE\_PREFIX

## KOB\_SAF\_LOGON\_RESOURCE\_PREFIX

This parameter specifies the prefix used with the SAF resource class. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

### Required or optional

Optional

### Location where the parameter value is stored

The KOBENV member of RKANPARU.

### PARMGEN name

KOB\_SAF\_LOGON\_RESOURCE\_PREFIX

### Description

Authorization to log on to the enhanced 3270 user interface is verified by checking for access to an SAF resource named in the following pattern: KOB.LOGON.*plexname.smfid.stcname* where KOB.LOGON is the logon resource prefix. This prefix can be changed by setting this parameter to another value.

### Related parameters

- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)
- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)
- [“KOB\\_SAF\\_LOGON\\_CLASS\\_NAME” on page 1442](#)
- [“KOB\\_SAF\\_QUERY\\_CLASS\\_NAME” on page 1443](#)
- [“KOB\\_SAF\\_ACTION\\_CLASS\\_NAME” on page 1441](#)

## KOB\_SAF\_LOGON\_TRACE

This parameter allows the OMEGAMON enhanced 3270 user interface to trace the session logon process. You must use the respective configuration tool to enable (uncomment) the parameter in the EMBEDS(KOB\$PENV) member (Configuration Manager) or the WCONFIG(KOB\$PENV) member (PARMGEN).

### Description

This parameter allows the OMEGAMON enhanced 3270 user interface to trace the session logon process, even if the logon did not succeed.

### Permissible value

YES

## KOB\_SAF\_QUERY\_CLASS\_NAME

This parameter specifies a specific security class name that is to be employed for authorization of a query (data retrieval) from the OMEGAMON enhanced 3270 user interface. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

### Required or optional

Optional

### Location where the parameter value is stored

The KOBENV member of RKANPARU.

**PARMGEN name**

KOB\_SAF\_QUERY\_CLASS\_NAME

**Description**

This parameter defaults to the RTE\_SECURITY\_CLASS parameter value. This parameter should only be specified if the RTE\_SECURITY\_CLASS is not being specified or a unique security class name is required for data retrieval authorization.

**Related parameters**

- [“RTE\\_SECURITY\\_CLASS” on page 286](#)
- [“KOB\\_TOM\\_VTAM\\_APPL\\_LOGON” on page 1438](#)
- [“KOB\\_TOM\\_VTAM\\_NODE” on page 1439](#)
- [“KOB\\_SAF\\_ACTION\\_CLASS\\_NAME” on page 1441](#)
- [“KOB\\_SAF\\_LOGON\\_CLASS\\_NAME” on page 1442](#)
- [“KOB\\_SAF\\_LOGON\\_RESOURCE\\_PREFIX” on page 1443](#)

**KOB\_SITST\_EXCLUDE\_HUBS**

This parameter is used to explicitly exclude one or more hub TEMS from periodic Situation data collection. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

**Required or optional**

Optional

**Location where the parameter value is stored**

The KOBENV member of RKANPARU.

**PARMGEN name**

KOB\_SITST\_EXCLUDE\_HUBS

**Description**

User supplies a comma-separated list of hub TEMS names (CMS\_NODEID). If both KOB\_SITST\_INCLUDE\_HUBS and KOB\_SITST\_EXCLUDE\_HUBS parameters are specified, the values specified in the KOB\_SITST\_INCLUDE\_HUBS parameter are ignored, and only the values for KOB\_SITST\_EXCLUDE\_HUBS are applied. If neither parameter is implemented, then all discovered Hub TEMS are sampled for situation data. For example: To exclude three test Hub TEMS running on z/OS, zLinux, and Windows, uncomment the parameter and customize the parameter value as follows:

```
000126 ** =COLS>----+----1----+----2----+----3----+----4----+----5----+----6--
000127 **          KOB_SITST_EXCLUDE_HUBS=%RTE_TEMS_NAME_NODEID%,HUB_zlnx,HUB_win
000128 **          ****
```

**Related parameters**

- [“KOB\\_SITST\\_SAMPLE\\_MINUTES” on page 1446](#)
- [“KOB\\_SITST\\_RECENT\\_SLOTS” on page 1446](#)
- [“KOB\\_SITST\\_HISTORY\\_SLOTS” on page 1445](#)
- [“KOB\\_SITST\\_HISTORY\\_RANGE” on page 1444](#)
- [“KOB\\_SITST\\_INCLUDE\\_HUBS” on page 1445](#)

**KOB\_SITST\_HISTORY\_RANGE**

This parameter is the total length of time (in Minutes, Hours, or Days) the historical summary of situation data will be kept for and displayed within the Situation Status Tree. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

**Required or optional**

Optional

**Location where the parameter value is stored**

The KOBENV member of RKANPARU.

**PARMGEN name**

KOB\_SITST\_HISTORY\_RANGE

**Description**

Valid ranges for this parameter are: 1M - 2<sup>32</sup>M (Minutes) or 1H - 2<sup>32</sup>H (Hours) or 1D - 2<sup>32</sup>D (Days). The default value is 4H. After supplying a numeric value, follow it immediately by one of the letters M, H, or D to indicate Minutes, Hours, or Days.

**Examples**

KOB\_SITST\_HISTORY\_RANGE=4H

KOB\_SITST\_HISTORY\_RANGE=45M

KOB\_SITST\_HISTORY\_RANGE=14D

**Related parameters**

- [“KOB\\_SITST\\_SAMPLE\\_MINUTES” on page 1446](#)
- [“KOB\\_SITST\\_RECENT\\_SLOTS” on page 1446](#)
- [“KOB\\_SITST\\_HISTORY\\_SLOTS” on page 1445](#)
- [“KOB\\_SITST\\_EXCLUDE\\_HUBS” on page 1444](#)
- [“KOB\\_SITST\\_INCLUDE\\_HUBS” on page 1445](#)

## KOB\_SITST\_HISTORY\_SLOTS

This parameter is the number of slots, or samples, of situation data that you want the OMEGAMON Enhanced 3270UI to keep as a historical summary and display within the Situation Status Tree. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

**Required or optional**

Optional

**Location where the parameter value is stored**

The KOBENV member of RKANPARU.

**PARMGEN name**

KOB\_SITST\_HISTORY\_SLOTS

**Description**

Values for this parameter are between 1 - 128 slots. The default value is 16 slots.

**Related parameters**

- [“KOB\\_SITST\\_SAMPLE\\_MINUTES” on page 1446](#)
- [“KOB\\_SITST\\_RECENT\\_SLOTS” on page 1446](#)
- [“KOB\\_SITST\\_HISTORY\\_RANGE” on page 1444](#)
- [“KOB\\_SITST\\_EXCLUDE\\_HUBS” on page 1444](#)
- [“KOB\\_SITST\\_INCLUDE\\_HUBS” on page 1445](#)

## KOB\_SITST\_INCLUDE\_HUBS

This parameter is used to explicitly include one or more hub TEMS for periodic situation data collection. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

### Required or optional

Optional

### Location where the parameter value is stored

The KOBENV member of RKANPARU.

### PARMGEN name

KOB\_SITST\_INCLUDE\_HUBS

### Description

User supplies a comma-separated list of hub TEMS names (CMS\_NODEID). If both KOB\_SITST\_INCLUDE\_HUBS and KOB\_SITST\_EXCLUDE\_HUBS parameters are specified, the values specified in the KOB\_SITST\_INCLUDE\_HUBS parameter are ignored, and only the values for KOB\_SITST\_EXCLUDE\_HUBS are applied. If neither parameter is implemented, then all discovered Hub TEMS are sampled for situation data. For example: To include three test Hub TEMS running on z/OS, zLinux, and Windows, uncomment the parameter and customize the parameter value as follows:

```
000126 ** =COLS>-----1-----2-----3-----4-----5-----6---
000127 **      KOB_SITST_INCLUDE_HUBS=%RTE_TEMS_NAME_NODEID%,HUB_zlnx,HUB_win
```

### Related parameters

- [“KOB\\_SITST\\_SAMPLE\\_MINUTES” on page 1446](#)
- [“KOB\\_SITST\\_RECENT\\_SLOTS” on page 1446](#)
- [“KOB\\_SITST\\_HISTORY\\_SLOTS” on page 1445](#)
- [“KOB\\_SITST\\_HISTORY\\_RANGE” on page 1444](#)
- [“KOB\\_SITST\\_EXCLUDE\\_HUBS” on page 1444](#)

## KOB\_SITST\_RECENT\_SLOTS

This parameter is the number of slots, or samples, of situation data that you want the OMEGAMON Enhanced 3270UI to keep as a record of recent situation status and display within the Situation Status Tree. This parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

### Required or optional

Optional

### Location where the parameter value is stored

The KOBENV member of RKANPARU.

### PARMGEN name

KOB\_SITST\_RECENT\_SLOTS

### Description

Values for this parameter are between 1 - 128 slots. For example, if you specify 12 slots and your sampling interval is 5 minutes (KOB\_SITST\_SAMPLE\_MINUTES=5), you will have one hour of recent data, shown across 12 different slots. The default value is 12 slots.

### Related parameters

- [“KOB\\_SITST\\_SAMPLE\\_MINUTES” on page 1446](#)
- [“KOB\\_SITST\\_HISTORY\\_SLOTS” on page 1445](#)
- [“KOB\\_SITST\\_HISTORY\\_RANGE” on page 1444](#)
- [“KOB\\_SITST\\_EXCLUDE\\_HUBS” on page 1444](#)
- [“KOB\\_SITST\\_INCLUDE\\_HUBS” on page 1445](#)

## KOB\_SITST\_SAMPLE\_MINUTES

This parameter is the sampling interval (in minutes) that you want the OMEGAMON Enhanced 3270UI to periodically gather current data about situation status from every active, and included, hub TEMS. This

parameter must be added to the EMBEDS(KOB\$PENV) member (Configuration Manager) or to the WCONFIG(KOB\$PENV) member (PARMGEN). You must enable the parameter after adding it in the imbed.

**Required or optional**

Optional

**Location where the parameter value is stored**

The KOBENV member of RKANPARU.

**PARMGEN name**

KOB\_SITST\_SAMPLE\_MINUTES

**Description**

Values for this parameter are between 1 - 2<sup>32</sup> minutes. Specify '0' to disable all Situation Data Collection at this OMEGAMON enhanced 3270UI. The default value is 5 minutes.

**Related parameters**

- [“KOB\\_SITST\\_RECENT\\_SLOTS” on page 1446](#)
- [“KOB\\_SITST\\_HISTORY\\_SLOTS” on page 1445](#)
- [“KOB\\_SITST\\_HISTORY\\_RANGE” on page 1444](#)
- [“KOB\\_SITST\\_EXCLUDE\\_HUBS” on page 1444](#)
- [“KOB\\_SITST\\_INCLUDE\\_HUBS” on page 1445](#)

## **MULTI\_TENANCY\_DDNAME**

This override embed parameter specifies the DD name of the data set containing the tenant definitions.

**Description**

This parameter specifies the DD name of the data set containing the tenant definitions when defined in PDS members. Tenant definitions are used in OMEGAMON enhanced 3270 user interface multi-tenancy mode.

This parameter is in the EMBEDS (KOB\$PENV) member (Configuration Manager) or the WCONFIG (KOB\$PENV) member (PARMGEN). You must follow a standard override embed procedure to ensure the parameter is set properly in RKANPARU (KOBENV).

**Default value**

RKOBPROF (uses the UKOBDATF data set)

## **MULTI\_TENANCY\_DEFS**

This override embed parameter specifies the location of the tenant definitions.

This parameter specifies the location of the tenant definitions, which are used in OMEGAMON enhanced 3270 user interface multi-tenancy mode.

**Description**

This parameter specifies the location of the tenant definitions, which are used in OMEGAMON enhanced 3270 user interface multi-tenancy mode.

This parameter is in the EMBEDS (KOB\$PENV) member (Configuration Manager) or the WCONFIG (KOB\$PENV) member (PARMGEN). You must follow a standard override embed procedure to ensure the parameter is set properly in RKANPARU (KOBENV).

**Permissible values**

**PDS**

Definitions are in PDS members located in the data set specified in the DD statement named in the **MULTI\_TENANCY\_DDNAME** parameter.

**SAF**

Definitions are made using the System Authorization Facility (SAF) interface for use with an external security system, such as RACF.

## Default value

PDS

## What's new (previous updates)

---

The topics in this section describe previous updates to the OMEGAMON configuration tools, products, and components.

## What's new in Monitoring Configuration Manager (previous updates)

This history summarizes the previous changes in Monitoring Configuration Manager documentation.

**Note:** For information about the most recent updates, see [“What's new in Tivoli Management Services on z/OS configuration software” on page 22](#).

Edition date	Description
October 2021	<p>With APAR OA62230, the following new features or changes are provided:</p> <ul style="list-style-type: none"><li>• The DELETE action provides an additional parameter of CONFIRM Y/N when the KCIVARS data set is affected. A value of "N" creates a list of potential data sets that could be deleted. See <a href="#">“DELETE” on page 258</a> for more information.</li><li>• A new PDCOLLECT utility collects diagnostic information. See <a href="#">“Troubleshooting” on page 365</a> for more details. Also new parameters have been added for the PDCOLLECT utility, which are:<ul style="list-style-type: none"><li>◦ <a href="#">“KFJ_PDCOL_HLQ” on page 310</a></li><li>◦ <a href="#">“KFJ_PDCOL_JOB_ID” on page 311</a></li><li>◦ <a href="#">“KFJ_PDCOL_JOB_NAME” on page 311</a></li><li>◦ <a href="#">“KFJ_PDCOL_JOB_OUTPUT” on page 312</a></li></ul></li><li>• An issue has been discovered when attempting to use batch optimization tools. See <a href="#">“Preparing to use Configuration Manager” on page 220</a> for more information.</li></ul>
September 2021	<p>With APAR OA61601 the following new features are introduced:</p> <ul style="list-style-type: none"><li>• Centralized configuration capability – Monitoring Configuration Manager can be used to generate runtime environments for remote systems from a single configuration LPAR.</li><li>• New PACKAGE and DEPLOY actions – These new actions are used to allow packaging runtime environments and to deploy the packages on a remote system. For more details, see <a href="#">“PACKAGE” on page 265</a> and <a href="#">“DEPLOY” on page 268</a>. See also <a href="#">“Remote deployment scenario” on page 341</a> for more details.</li></ul>
July 2021	<p>With APAR OA61383, all references to <i>super user</i> have been removed.</p>

Edition date	Description
December 2020	<p>With APAR OA60562, the following products can now be configured using Monitoring Configuration Manager, regardless of them being part of a Suite or Pack offering or purchased as a standalone point product:</p> <ul style="list-style-type: none"> <li>• Tivoli Enterprise Monitoring Server 6.3.0</li> <li>• OMEGAMON Enhanced 3270 User Interface 7.5.0</li> <li>• IBM Z OMEGAMON Monitor for z/OS 5.6.0</li> <li>• IBM OMEGAMON for z/OS 5.5.0</li> <li>• IBM Z OMEGAMON Network Monitor 5.6.0</li> <li>• IBM OMEGAMON for Networks on z/OS 5.5.0</li> <li>• IBM Z OMEGAMON Integration Monitor 5.6.0</li> <li>• IBM Tivoli OMEGAMON XE for Db2 Performance Expert on z/OS 5.4.0</li> <li>• IBM Tivoli OMEGAMON XE for Db2 Performance Monitor on z/OS 5.4.0</li> <li>• IBM OMEGAMON for CICS on z/OS 5.5.0</li> <li>• IBM OMEGAMON for IMS on z/OS 5.5.0</li> <li>• IBM OMEGAMON for Messaging on z/OS 7.5.0</li> <li>• IBM Z OMEGAMON for JVM 5.5.0</li> <li>• IBM Z OMEGAMON Runtime Edition for JVM 5.5.0</li> <li>• IBM OMEGAMON for Storage on z/OS 5.5.0</li> <li>• IBM Z NetView Agent 6.3.0</li> <li>• ITCAM for Application Diagnostics Agent 7.1.0</li> <li>• IBM OMEGAMON Dashboard Edition on z/OS 5.5.0</li> </ul>
November 2020	<p>Monitoring Configuration Manager updates include the following new features:</p> <ul style="list-style-type: none"> <li>• MIGRATE action as described in <a href="#">“MIGRATE” on page 261</a>.</li> <li>• Embed overrides as described in <a href="#">“Using override embed members in Configuration Manager” on page 337</a>.</li> <li>• Security exits as described in <a href="#">“Setting up security exits in your runtime environment” on page 336</a>.</li> </ul>
July 2020	<p>First public edition, coinciding with the general availability (GA) of the fix for APAR OA59463, PTF UJ03556 (new function: Monitoring Configuration Manager).</p>

## What's new in PARMGEN (previous updates)

The topics in this section describe previous updates to the Parameter Generator (PARMGEN) configuration method.

**Note:** For information about the most recent updates, see [“What's new in Tivoli Management Services on z/OS configuration software” on page 22](#).

### PARMGEN PTF UJ07400 for APAR OA62486 (4Q21)

The PARMGEN PTF UJ07400 (4Q21) includes updates to OMEGAMON for Messaging and OMEGAMON for JVM agents, and the IBM runtime exclude member list.

## PARMGEN configuration framework enhancements and updates

The following statement is now included in the RKANSAMU(KCI\$IW2R) IBM runtime exclude member list:

```
EXCLUDEI K*THRS
```

This statement prevents *Kpp*THRS members from being removed from RK\* libraries when (in PARMGEN) jobs KCIJPW2R and KCIJPW1R, which copy WK\* files to RK\*, are run, or (in Configuration Manager) the **GENERATE** action is run.

## Product-specific enhancements

### OMEGAMON for Messaging

The following updates have been made for OMEGAMON for Messaging:

- The following parameters have been added for monitoring IBM App Connect Enterprise (ACE) on z/OS Container Extensions (zCX):
  - **KQI\_XML\_JAVA\_HOME1**
  - **KQI\_XML\_JAVA\_HOME2**
- The following parameters have been changed to be optional with no default value:
  - **KQI\_XML\_XIMBDIR1**
  - **KQI\_XML\_XIMBNAME\_MON\_BRKR\_NAME**
- The default value has been changed to 0 for the following parameter:
  - **KQI\_XML\_XISSRET\_SNAPSHOT\_SAMPLE**
- Embed file KQIXML has been updated.

### OMEGAMON for JVM

Override members KJT\$SST1 and KJT\$SST3 have been added to the OMEGAMON for JVM Collector started task.

## PARMGEN PTF UJ06932 for APAR OA62358 (3Q21)

The PARMGEN PTF UJ06932 (3Q21) includes fixes for the APF authorization procedure and several OMEGAMON for Db2 parameter default values.

## PARMGEN configuration framework enhancements and updates

The generated APF authorization procedure contained SMP/E data sets (\*KANMODR, \*KANMODP) that did not always exist. A check was added to only include those data sets if certain products are installed.

## Product-specific enhancements

### OMEGAMON for Db2

OMEGAMON for Db2 threshold, exception log, and exception file data sets used incorrect default values in the following parameters:

- **KD2\_PFO1\_AEXCP\_D2TPVL**
- **KD2\_PFO1\_AEXCP\_D2TPTFSC**
- **KD2\_PFO1\_AEXCP\_D2TPTFMC**

The default values were taken from VSAM parameters instead of non-VSAM parameters.

## PARMGEN PTF UJ06753 for APAR OA62125 (3Q21)

The PARMGEN PTF UJ06753 (3Q21) includes a fix for z/OS® UNIX® System Services-related JCL jobs.

## PARMGEN configuration framework enhancements and updates

After the super user requirement was removed in a previous PARMGEN update, the JCL jobs related to z/OS UNIX produced an error (RC=256), as they were unable to change the permission for files if the JCL jobs were run using different user IDs. This problem has been corrected.

## PARMGEN PTF UJ06604 for APAR OA62001 (3Q21)

The PARMGEN PTF UJ06604 for APAR OA62001 (3Q21) provides an enhancement for the problem determination data collection tool KCIPDCOL.

## PARMGEN configuration framework enhancements and updates

The PARMGEN problem determination data collection tool, which is exposed on the Utilities panel (KCIPQPGU) as **32. Collect diagnostic information for this RTE**, and uses the tailored job KCIJPCOL, has been enhanced to collect diagnostic information about the Self-Describing Agent (SDA) functionality.

Also, the option PMR has been removed from the KCIJPCOL job and the respective changes have been made to KCIJPCOL.

For more information about using the tool, see [“How to: Collect diagnostic information using PDCOLLECT” on page 508](#).

## PARMGEN PTF UJ05702 for APAR OA61383 (2Q21)

The PARMGEN PTF UJ05702 for APAR OA61383 (2Q21) updates include several JCL job fixes.

## PARMGEN configuration framework enhancements and updates

This PTF removes the requirement for the submitting user to either have UID (0) or superuser privileges to perform various z/OS® UNIX® System Services functions to configure OMEGAMON products. The submitting user must have read/write permission to the **RTE\_USS\_RTEDIR** path.

## Product-specific enhancements

The following product-specific enhancements are provided in this release:

### IBM OMEGAMON for JVM

The default location of the Health Center Agent (HCA) files has changed.

- Previous location, which is two levels above **GBL\_USS\_TKANJAR\_PATH**:

```
/usr/lpp/kan/
```

- New location, where the path consists of two parameters, **RTE\_USS\_RTEDIR** and **RTE\_NAME**, for all RTE types (FULL, SHARING with base libraries, or SHARING with SMP/E libraries).

```
/rtehome/rte_name/kan/
```

## PARMGEN PTF UJ05411 for APAR OA60244 (1Q21)

The PARMGEN PTF UJ05411 for APAR OA60244 (1Q21) introduces a new set of parameters that can be used by PARMGEN to configure PDS V2 data sets properly for supported products.

The intent of the PTF is to provide a smooth transition from an existing PDS V1 implementation to PDS V2, allowing improved customization of some of the basic information for PDS V2, such as high-level qualifiers or allocation sizes for the PDS V2 data sets.

The following RTE parameters control PDS V2 settings for an individual runtime environment and provide default settings for the OMEGAMON agents configured in that environment. These parameters control whether PDS V2 is activated for the RTE and define default data set allocation settings.

```
RTE_PDS2_ACTIVATION
RTE_PDS2_ALLOC_TYPE
RTE_PDS2_HILEV
RTE_PDS2_SMS_DATACLAS
RTE_PDS2_SMS_MGMTCLAS
```

RTE\_PDS2\_SMS\_STORCLAS  
RTE\_PDS2\_VOLUME

The following parameters provide agent-specific settings for PDS V2, where *pp* identifies the agent. These parameters control whether PDS V2 is activated for the agent and define data set allocation settings.

Kpp\_PDS2\_ACTIVATION  
Kpp\_PDS2\_FILE\_COUNT  
Kpp\_PDS2\_SEC\_SIZE  
Kpp\_PDS2\_STORE\_SIZE

For more information, see [PDS V2 parameters](#).

## PARMGEN PTF UJ05166 for APAR OA60209 (1Q21)

The PARMGEN PTF UJ05166 for APAR OA60209 (1Q21) updates include support for OMEGAMON for Db2 Thread Level Anomaly Detection parameters and their handling.

### Product-specific enhancements

The following product-specific enhancements are provided in this release:

#### IBM OMEGAMON for Db2

The following new parameters are introduced:

KD2\_PFn\_HIS\_AD\_ALPHA  
KD2\_PFn\_HIS\_AD\_CPU\_DSC\_TOL  
KD2\_PFn\_HIS\_AD\_CPU\_TOL  
KD2\_PFn\_HIS\_AD\_ELP\_DSC\_TOL  
KD2\_PFn\_HIS\_AD\_ELP\_TOL  
KD2\_PFn\_HIS\_AD\_ENABLED  
KD2\_PFn\_HIS\_AD\_GP\_DLT  
KD2\_PFn\_HIS\_AD\_GPG\_DSC\_TOL  
KD2\_PFn\_HIS\_AD\_GPG\_TOL  
KD2\_PFn\_HIS\_AD\_MEMORY\_SIZE  
KD2\_PFn\_HIS\_AD\_MIN\_COUNT  
KD2\_PFn\_HIS\_AD\_USE\_AUTH  
KD2\_PFn\_HIS\_AD\_USE\_CONNECT  
KD2\_PFn\_HIS\_AD\_USE\_CONNM  
KD2\_PFn\_HIS\_AD\_USE\_CORRID  
KD2\_PFn\_HIS\_AD\_USE\_ENDUSER  
KD2\_PFn\_HIS\_AD\_USE\_PLAN  
KD2\_PFn\_HIS\_AD\_USE\_TRANSAC  
KD2\_PFn\_HIS\_AD\_USE\_WSNAME

For more information, see [KD2\\_PFn\\_HIS\\_AD - Anomaly detection](#).

## PARMGEN PTF UJ04817 for APAR OA60708 (1Q21)

The PARMGEN PTF UJ04817 for APAR OA60708 (1Q21) updates include minor changes to two parameters, as well as JCL and job fixes.

### PARMGEN configuration framework enhancements and updates

The configuration software includes an update to the processing of the PARMGEN panels. The PARMGEN panels now correctly display any errors from the JCL jobs and ignore system or user job abends that are associated with fix \*ABN=xxx.

### Product-specific enhancements

The following product-specific enhancements are provided in this release:

#### IBM Tivoli OMEGAMON Manager (TOM)

The VTAM and started task (STC) definitions for TOM are no longer created if they are not clearly specified to be configured.

#### IBM OMEGAMON for Db2

The following changes have been made:

- The default value for the **KD2\_PFn\_DCM\_D2SHDCST** parameter has changed from Y to N.
- The following JCL error, which occurred when near-term historical archive jobs were run, has been fixed:

### **IBM OMEGAMON for Storage**

The description of the **KS3\_AS\_LISTENER\_ADDR** parameter has been improved to clarify the term loopback address.

## **PARMGEN PTF UJ04560 for APAR OA60460 (4Q20)**

The PARMGEN PTF UJ04560 for APAR OA60460 (4Q20) updates include a fix for unresolved variables, a fix for a syntax error, and a change in JCL used in a PROCLIB fix.

### **Product-specific enhancements**

The following product-specific enhancements are provided in this release:

#### **IBM OMEGAMON XE for z/OS Version 5.4.0**

- A fix for unresolved variables.
- A fix for a syntax error that may be generated when using the **KD5\_AGT\_STC** JCL parameter.

#### **IBM OMEGAMON for CICS**

Previously, only the first started task (Classic STC) JCL was sent to the PROCLIB. This has been changed to include all available Classic STCs.

## **PARMGEN PTF UJ04273 for APAR OA60210 (3Q20)**

The PARMGEN PTF UJ04273 for APAR OA60210 (3Q20) updates include a new MFA parameter, a parameter setting for started tasks, and a version correction.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following updates:

- Introduces the new parameter **KDS\_SAFAPPL** to define APPL support for MFA.
- Adds **MEMLIMIT=NOLIMIT** to generated started tasks for monitoring agents and servers.
- Corrects the PTF number in PARMGEN jobs.

## **PARMGEN PTF UJ03989 for APAR OA60163 (3Q20)**

The PARMGEN PTF UJ03989 for APAR OA60163 (3Q20) updates include a change for OMEGAMON for Networks and a new message.

### **PARMGEN configuration framework enhancements and updates**

The configuration software generates a message when the value of the **GBL\_DSN\_SYS1\_VTAMLIB** parameter is **SYS1.VTAMLIB**.

## **PARMGEN PTF UJ03737 for APAR OA60006 (3Q20)**

The PARMGEN PTF UJ03737 for APAR OA60006 (3Q20) updates include validation improvements, a CALDFLT update, and a change in anomaly detection.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following updates:

- Improvements in validation of empty table definitions.
- A change in the possible CALDFLT values for the **GBL\_DSN\_WMQ\_SCSQLOAD** parameter.

## **PARMGEN PTF UJ03556 for APAR OA59910 (3Q20)**

The PARMGEN PTF UJ03556 for APAR OA59910 (3Q20) update includes new optimizations to the KCIPARSE program.

### **PARMGEN configuration framework enhancements and updates**

Optimizations to the KCIPARSE program have been implemented that reduce the CPU usage.

## **PARMGEN PTF UJ03536 for APAR OA59848 (3Q20)**

The PARMGEN PTF UJ03536 for APAR OA59848 (3Q20) updates include enhanced reporting, and restrictions for a template, for collector libraries, and for a sample file.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following updates:

- Previously in the CUA VTAM major node definition, the KMVNODE@ template was not imbedded. This has been corrected.
- Previously the sample RKANSAMU(KEPTSO) contained an incorrect default for the \*PAR dataset. This has been corrected.

### **Product-specific enhancements**

The following product-specific enhancements are provided in this release:

#### **IBM OMEGAMON for Storage**

Enhanced reporting is now provided for the Storage Toolkit.

#### **IBM OMEGAMON for z/OS**

For a full runtime environment (RTE), the KM2 Epilog Collector libraries are not loaded correctly. To address this issue, you must apply the PTF and reload your runtime environment.

## **PARMGEN PTF UJ03239 for APAR OA59623 (3Q20)**

PARMGEN PTF UJ03239 for APAR OA59623 (3Q20) updates include support for security updates, improved assessment of "I" validation errors, and information on detection parameters for OMEGAMON for Db2 V5.4.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes an update. The `RTE_VALIDATION_LEVEL` parameter with a setting of "I" has been fixed to ensure it recognizes validation errors.

### **Product-specific enhancements**

The following product-specific enhancement is provided in this release:

#### **IBM OMEGAMON for Storage**

The `RTE_USS_RTEDIR` parameter is used to define the path where runtime members are stored in z/OS® UNIX® System Services. This parameter is not available for use in OMEGAMON for Storage started tasks with Realtime Dataset Metrics (RDM).

## **PARMGEN PTF UJ02903 for APAR OA59433 (2Q20)**

PARMGEN PTF UJ02903 for APAR OA59433 (2Q20) includes additional parameter checks for OMEGAMON for Storage and several fixes for maintenance issues.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the fix of a potential problem with the PARMGEN maintenance procedures.

### **Product-specific enhancements**

The following product-specific enhancements are provided in this release:

#### **IBM OMEGAMON for z/OS**

Provides a list of updates for the procedures.

### **IBM OMEGAMON for Storage**

Check of additional parameters used in IBM OMEGAMON for Storage on z/OS.

## **PARMGEN PTF UJ01973 for APAR OA59012 (1Q20)**

The PARMGEN PTF UJ01973 for APAR OA59012 (1Q20) provides configuration support for new products, a new parameter for multi-tenancy enablement, and the removal of hardware-related informational messages.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following updates:

- The following products can now be configured with PARMGEN:
  - IBM Z OMEGAMON for JVM, V5.5.0
  - IBM Z OMEGAMON Runtime Edition for JVM, V5.5.0
- Post-configuration information for OMEGAMON for JVM has been removed from PARMGEN. For information about the steps to complete after using PARMGEN, see [Completing the configuration - IBM Z OMEGAMON for JVM](#).
- Informational messages about CPU or other hardware that appeared when starting PARMGEN have been removed.

### **Component-specific enhancement**

This release provides the following component-specific enhancement:

#### **OMEGAMON enhanced 3270 user interface**

New parameter **KOB\_MT\_ENABLE** has been introduced to control whether multi-tenancy is enabled. This parameter allows you to modify the **MULTI** parameter in the OMEGAMON enhanced 3270 user interface started task JCL using PARMGEN.

## **PARMGEN PTF UJ02038 for APAR OA58817 (1Q20)**

The PARMGEN PTF UJ02038 for APAR OA58817 (1Q20) provides performance improvements for the KCIPARSE program.

## **PARMGEN PTF UJ02017 for APAR OA58861 (1Q20)**

The PARMGEN PTF UJ02017 for APAR OA58861 (1Q20) provides configuration support for OMEGAMON enhanced 3270 user interface enhancements including multi-tenancy, cryptography, and improved messaging for security and logon events. Configuration support is also provided for enhancements in OMEGAMON for Networks for VTAM applications (VAPP) and for z/OS Encryption Readiness Technology (zERT). A syntax error has been corrected for IBM Z OMEGAMON Integration Monitor.

This PTF provides the following updates, listed by product or component:

#### **OMEGAMON enhanced 3270 user interface**

- Configuration support for the multi-tenancy feature. The parameter **MULTI=N** has been added to the OMEGAMON enhanced 3270 user interface started task JCL. To enable multi-tenancy in your environment, you must change this setting to **MULTI=Y**.
- Configuration support for improved messaging for security and logon events. The following parameters have been introduced:
  - KOB\_SAF\_FAILURE=CONSOLE**

This parameter determines whether to echo security-related messages from the security product to the OMEGAMON enhanced 3270 user interface and SYSPRINT, as well as SYSLOG.
  - KOB\_SAF\_LOGON\_TRACE=YES**

This parameter allows the OMEGAMON enhanced 3270 user interface to trace the session logon process.
- Cryptography support

## OMEGAMON for Networks

Configuration support for enhancements around VTAM applications (VAPP) and for z/OS Encryption Readiness Technology (zERT). The following parameters have been introduced:

### **KN3\_SNA\_VTAM\_APPS**

This parameter determines whether to collect data for VTAM applications and sessions.

### **KN3\_TCP\_ZERT**

This parameter determines whether to collect z/OS Encryption Readiness Technology (zERT) data for the system. This global parameter is for the entire system.

### **KN3\_TCPXnn\_OVRD\_ZERT**

This parameter determines whether to override the global collection setting for z/OS Encryption Readiness Technology (zERT) for this TCP/IP address space.

## IBM Z OMEGAMON Integration Monitor

Resolve a syntax error generated in \*NODE APPL definitions

## PARMGEN PTF UJ01311 for APAR OA58363 (4Q19)

PARMGEN PTF UJ01311 for APAR OA58363 (4Q19) provides configuration support for passphrase and MFA, EAV, and the IBM Z NetView release.

## PARMGEN configuration framework enhancements and updates

The configuration software includes the following enhancements and updates:

- Provides configuration support for passphrase and multi-factor authorization (MFA) in OMEGAMON enhanced 3270 user interface and OMEGAMON Classic User Interface
- Provides configuration support for the IBM Z NetView V6.3 release

**Note:** IBM Tivoli NetView for z/OS is now IBM Z NetView. IBM Tivoli NetView for z/OS Enterprise Management Agent is now IBM Z NetView Enterprise Management Agent.

- Provides Extended Address Volume (EAV) support, including updates to the KCIJPSEC job

## Product-specific enhancements

This release provides the following product-specific enhancements:

### OMEGAMON for z/OS

New parameters for passphrase and MFA support:

**KM2\_CLASSIC\_PASSPHRASE**

**KM2\_CLASSIC\_SECCLASS**

**KM2\_CLASSIC\_SAFAPPL**

**Note:** Parameters PRTCT and PSWD are being deprecated.

### OMEGAMON for CICS

New parameters for passphrase and MFA support:

**KC2\_CLASSIC\_PASSPHRASE**

**KC2\_CLASSIC\_SECCLASS**

**KC2\_CLASSIC\_SAFAPPL**

### OMEGAMON for Db2

New parameters for passphrase and MFA support:

**KD2\_CLASSIC\_PASSPHRASE**

**KD2\_CLASSIC\_SECCLASS**

**KD2\_CLASSIC\_SAFAPPL**

## **OMEGAMON for IMS**

New parameters for passphrase and MFA support:

**KI2\_CLASSIC\_PASSPHRASE**

**KI2\_CLASSIC\_SECCLASS**

**KI2\_CLASSIC\_SAFAPPL**

## **OMEGAMON enhanced 3270 user interface**

New parameter for passphrase and MFA support:

**KOB\_SAF\_APPLID**

## **PARMGEN PTF UJ01287 for APAR OA58439 (4Q19)**

The PARMGEN PTF UJ01287 for APAR OA58439 (4Q19) provides updates to the PARMGEN configuration framework.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following update:

- Resolves a PARMGEN program loop when using code page 1141

### **Product-specific update**

This PTF provides the following product-specific update:

#### **OMEGAMON for Storage**

Corrects an issue where the wrong member is copied in job KCIJPSYS for OMEGAMON XE for Storage 5.4.0

## **PARMGEN PTF UJ01126 for APAR OA58518 (4Q19)**

The PARMGEN PTF UJ01126 for APAR OA58518 (4Q19) provides configuration support for new products.

### **PARMGEN configuration framework enhancements**

The following products can now be configured with PARMGEN:

- IBM Z OMEGAMON Monitor for z/OS V5.6.0
- IBM Z OMEGAMON Network Monitor V5.6.0
- IBM Z OMEGAMON Integration Monitor V5.6.0

## **PARMGEN PTF UJ00100 for APAR OA56017 (3Q19)**

The PARMGEN PTF UJ00100 for cumulative APAR OA56017 (3Q19) provides several updates to the PARMGEN configuration framework.

### **PARMGEN configuration framework updates**

The configuration software includes the following updates:

- Provides an update to allow the **KDS\_CMS\_NODE\_VALIDATION** parameter to be set to N0 (APAR OA57554)
- Updates module KCIR@PG1 to recognize machine type 3907 (APAR OA57047)

### **Product-specific updates**

This PTF provides the following product-specific updates:

#### **OMEGAMON for Messaging**

Corrects an issue where changing the **RTE\_USS\_MKDIR\_MODE** value does not update the access mode in the OMEGAMON for Messaging KQIMKDIR and KQIUSS jobs

#### **OMEGAMON for Networks**

Updates SNMP configuration instructions (KNSNMP) for OMEGAMON for Networks v5.5.0

#### **OMEGAMON for Storage**

Resolves KCIJPSYS job errors when OMEGAMON for Storage (KS3) is not installed (APAR OA57357)

### **OMEGAMON XE for z/OS**

Updates EPILOG use for OMEGAMON XE for z/OS V5.3.0

### **IBM Tivoli Composite Application Manager**

Corrects syntax for z/OS® UNIX® System Services command in IBM Tivoli Composite Application Manager (ITCAM) RTE job

## **PARMGEN PTF UA98449 for APAR OA56325 (4Q18)**

PARMGEN PTF UA98449 for cumulative APAR OA56325 (4Q18 Update) introduces support to configure IBM OMEGAMON for Storage V5.5.0 together with several fixes to the PARMGEN configuration framework.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following enhancements:

- Resolve a hang when exiting from editing a parameter member when the PARMGEN dialog is invoked from a REXX program under TSO. (APAR OA55793)
- Fix a potential space problem with the PDS procedure (CANSPD1) with the allocation of TMPPARU. (APAR OA55119)
- Correct erroneous data set names produced as a result of the zDLA processing. (APAR OA55501)
- Improve the error handling of KCIJPUS to more accurately reflect the success of the job.

### **Product-specific enhancements**

The following product-specific enhancements are provided in this release:

#### **IBM OMEGAMON for Storage**

Support has been added for configuring Version 5.5.0 of IBM OMEGAMON for Storage on z/OS. This includes the configuration of the Realtime Data Metrics (RDM) server.

There are two new basic parameters. **KS3\_NODEJS\_HOME** and **KS3\_RDM\_SERVICE\_ADDR**. The **KS3\_NODEJS\_HOME** parameter defines the location where Node.js is installed on z/OS. It is the equivalent of the `node.js_home` directory. The **KS3\_RDM\_SERVICE\_ADDR** parameter is the IP address of the z/OS host that is known to the users of the TEP.

See [Realtime Dataset Metrics Web user interface](#) in the *IBM OMEGAMON for Storage on z/OS 5.5.0 Planning and Configuring* guide for more information on configuring the RDM server.

## **PARMGEN PTF UA95719 for APAR OA54925 (1Q18)**

PARMGEN PTF UA95719 for APAR OA54925 (1Q18) introduces several enhancements to PARMGEN Workflow User Interface applicable to all products that the PARMGEN configuration tool deploys.

Note that this PTF applies to all product versions. You do not have to upgrade to Tivoli® Management Services on z/OS® V6.3.0 Fix Pack 6 or later to take advantage of these features, but Tivoli® Management Services V6.3.0 Fix Pack 6 or later is a prerequisite for the OMEGAMON® XE version 5.3.0 family of products on the distributed platform. Starting from OMEGAMON version 5.5.0 family products, Tivoli Management Services V6.3.0 Fix Pack 6 or later is a prerequisite on both distributed and z/OS platforms because the OMEGAMON V5.5.0 products are built on z/OS ITM 6.3.0 FP6 level of maintenance.

If you upgrade a monitoring agent and Tivoli Management Services, always review the topic [“Basic upgrade requirements” on page 167](#). In this topic you can find information about any new PARMGEN profile parameters that you might need to add to your existing \$GBL\$USR global user profile for a product feature.

### **PARMGEN configuration framework enhancements and updates**

The configuration software includes the following enhancements:

- Some global parameters are now product-specific parameters for more flexible configuration.
  - The following global parameters are now product-specific parameters to allow each product to have its own IP and port for connecting to the HUB TEMS:
    - **KAG\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS** is now **Kpp\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS**.

- **KAG\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS** is now **Kpp\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS**.
  - **KAG\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS** is now **Kpp\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS**.
  - **KAG\_X\_KDE\_TRANSPORT\_OPTIONS** is now **Kpp\_X\_KDE\_TRANSPORT\_OPTIONS**.
  - The parameter **RTE\_PDS\_FILE\_COUNT** is now **Kpp\_PDS\_FILE\_COUNT** to allow each product to define its own number of PDS files for near term history data.
- In the CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS (KCIP@PG6) panel, DLAJOB is added as a new option 0 for the auto-discovery job.

```

KCIP@PG6 ----- CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS -----
Command ==>                                     Scroll ==> PAGE
  More:      +

(Required) Customize the RTE profile and the $GBL$USR user profiles:
  0. DLAJOB    z/OS Automatic Resource Discovery Job
  1. RTE      RTE LPAR-specific CONFIG profile in WCONFIG (User copy)
  2. $GBL$USR Global parameters CONFIG profile in WCONFIG (User copy)

(Not Required) Customize the RTE Variables profile if RTE_SYSV_SYSVAR_FLAG=Y:
  3. RTE      Variables (system, user) CONFIG profile in GBL_USER_JCL PARMGEN
              global library (TDITNT.IDTST.PARMGEN.JCL).
              Add or override system or user-defined symbols and their
              resolution values for symbols used in the user profiles.

(Tip) Review/Customize WCONFIG Kpp$C*/Kpp$P*/Kpp$S* user imbeds:
(Cloning Tip) Review KCIJPCCF job in Utility menu prior to customization.
  4. WCONFIG  TDITNT.IDTST.JVM.WCONFIG

(Tip) Review if you want to compare with IBM-supplied default profile values:
  5. $CFG$IBM RTE LPAR-specific CONFIG profile in WCONFIG (IBM copy)
  6. $GBL$IBM Global parameters CONFIG profile in WCONFIG (IBM copy)

(Optional) Override SYSIN member to supply additional (User) profiles:
  7. $SYSIN  $PARSE/$PARSESV SYSIN controls (CONFIG/SELECT MEMBER)

```

- A user-defined exclude list **WCONFIG (KCI\$XW2R)** is provided to retain customized members in the RK\* user libraries during maintenance. When you run the WKANSAMU(KCIJPW1R) job, the members that are listed in the user-defined exclude list **WCONFIG (KCI\$XW2R)** and the IBM provided exclude list **WKANSAMU (KCI\$IW2R)** are retained.

## Product-specific enhancements

This release provides the following product-specific enhancements:

### OMEGAMON for DB2

When you configure DB2 subsystems, the validation of the parameter **KD2\_DBnn\_DB2\_PORT\_NUM** now involves the parameter **KD2\_DBnn\_DB2\_SYSNAME**. If the port numbers are the same, PARMGEN checks the system names of the corresponding DB2 subsystems. If the system names are also the same, the parameter is flagged as invalid.

## PARMGEN PTF UA94193 for APAR OA53974 (4Q17 Interim Feature)

PARMGEN PTF UA94193 for APAR OA53974 (4Q17 Interim Feature) introduces several enhancements to PARMGEN Workflow User Interface applicable to all products that the PARMGEN configuration tool deploys.

Note that this APAR applies to all product versions. You do not have to upgrade to Tivoli® Management Services on z/OS® V6.3.0 Fix Pack 6 or later to take advantage of these features, but Tivoli® Management Services V6.3.0 Fix Pack 6 or later is a prerequisite for the OMEGAMON® XE version 5.3.0 family of products on the distributed platform. Starting from OMEGAMON version 5.5.0 family products, Tivoli Management Services V6.3.0 Fix Pack 6 or later is a prerequisite on both distributed and z/OS platforms because the OMEGAMON V5.5.0 products are built on z/OS ITM 6.3.0 FP6 level of maintenance.

If you upgrade a monitoring agent and Tivoli Management Services, always review the topic [“Basic upgrade requirements” on page 167](#). In this topic you can find information about any new PARMGEN profile parameters that you might need to add to your existing \$GBL\$USR global user profile for a product feature.

## PARMGEN configuration framework enhancements and updates

The configuration software includes the following enhancements:

- CUA-related best practice comments are added to the variables profile in GBL\_USER\_JCL. The comments indicate that CUA-related user symbols apply to OMEGAMON family products version 5.3.0 and earlier versions. Comments can be found in KCI\$RTEV during RTE configuration.
- KCIPDCOL no longer creates libraries with LRCL larger than BLKSIZE so that internal libraries that are created during temporary file allocation do not cause space issues.
- Benign return code RC=20 is removed. The benign return code RC=20 was returned by job KCIJPDEL when the \$LAST member is not in the GBL\_USER\_JCL dataset, or the first RTE created in the GBL\_USER\_JCL dataset is deleted.
- BPX.SUPERUSER read access provides enough authority to run the KCIJPUSS job, batch job 7.
- Additional checks are added in optional KCIJPSYS job to detect if RTE has OMEGAMON for IMS V530 installed but not configured. If so, the IEBCOPY step in COPYNODE/COPYPROC of KCIJPSYS generates the IEBCOPY control statement as a comment.
- Product template for KOB\$PENV in IKANPARU is enhanced to split lines and avoid KOB delimiter error message.

### Product-specific enhancements

This release provides the following product-specific enhancements:

#### OMEGAMON for IMS

The following enhancements are added:

- OMIMS CUA IEBCOPY is no longer generated by KCIJPSYS job for RTE that has no OMEGAMON for IMS.
- IMS V15 support is added for BMP function in OMEGAMON for IMS V5.3.0 and V5.1.0 in OMEGAMON IMS KI2BLDLI stand-alone BMP link job. This enhancement does not apply to OMEGAMON for IMS V5.5.0 where the BMP function is dropped.

#### OMEGAMON for Storage

KDF and KS3 PDS V1 data sets are only needed for OMEGAMON for Storage v540 and earlier versions. After you apply the PTF, KDF and KS3 PDS V1 datasets will no longer be created for OMEGAMON for Storage V550. KxxAL and KxxPDICT members will still be generated in parameter dataset, and EXECs will be run at TEMS start-up.

#### OMEGAMON for DB2

The default values of OMEGAMON for DB2 parameters **KD2\_PFO1\_HIS\_SEQ\_TYP** and **KD2\_PFO1\_HIS\_SEQ\_ARC\_TYP** are changed to dynamic.

## PARMGEN PTF UA91953 for APAR OA52888 (3Q17 Interim Feature)

PARMGEN PTF UA91953 for APAR OA52888 (3Q17 Interim Feature) introduces several enhancements that benefit many of the products in the z Systems Management Suites that PARMGEN helps deploy, for example, the PARMGEN z/OS Discovery Library Adapter (DLA) integration enhancement.

Note that this APAR applies to all product versions. You do not have to upgrade to Tivoli® Management Services on z/OS® V6.3.0 Fix Pack 6 or later to take advantage of these features, but Tivoli® Management Services V6.3.0 Fix Pack 6 or later is a prerequisite for the OMEGAMON® XE version 5.3.0 family of products on the distributed platform. Starting from OMEGAMON version 5.5.0 family products, Tivoli Management Services V6.3.0 Fix Pack 6 or later is a prerequisite on both distributed and z/OS platforms because the OMEGAMON V5.5.0 products are built on z/OS ITM 6.3.0 FP6 level of maintenance.

For product-specific enhancements, see the *New in this release* information for each OMEGAMON® product. For a composite list of all the product-specific "What's New?" documentation, refer to ["OMEGAMON version 5.5.0 family products \(3Q17 release\)" on page 1508](#).

If you upgrade a monitoring Agent and Tivoli Management Services, always review this topic related to any new PARMGEN profile parameters that you may need to add to your existing \$GBL\$USR global user profile if exploiting a product feature: Basic upgrade requirements

### PARMGEN configuration framework enhancements and updates

The configuration software includes the following enhancements:

- Updated the "Welcome to the z/OS Installation and Configuration Tools for IBM Tivoli Management Services (TMS) dependent products" preparation topics such as "IBM z Systems Management Suites that

JOBGEN/PARMGEN help deploy - Overview", "Components in the Product Suites Matrix by Suite Code", "Components in the Product Suites Matrix by JOBGEN Exploitation" and "Components in the Product Suites Matrix by PARMGEN Exploitation". An thus you will know the following information ahead of time:

- How to deploy the SMP/E and configuration requirements of the various components included in the suites.
- Where to go next after the SMP/E and PARMGEN configuration phase of product deployment (especially components that use their own installation and configuration processes outside JOBGEN/PARMGEN controls).
- Which components need further post-configuration work.

This information can lead to a smoother deployment of the product suites. A well-planned ordering, system preparation, installation, configuration and post-configuration of the products mean a better time-to-value using the products quicker.

- Updated additional JOBGEN and PARMGEN on-line help to support the following changes:
  - New version of IBM Service Management Suite for z/OS V1.5.0. Suite is refreshed to include new versions of the following products:
    - IBM OMEGAMON Enhanced 3270 User Interface V7.5.0
    - IBM OMEGAMON Subsystem V7.5.0
    - IBM OMEGAMON for CICS on z/OS V5.5.0
    - IBM OMEGAMON for CICS TG on z/OS V5.5.0
    - IBM OMEGAMON for IMS on z/OS V5.5.0
    - IBM OMEGAMON for Messaging on z/OS - MQ V7.5.0
    - IBM OMEGAMON for Messaging on z/OS - Integration Bus V7.5.0
    - IBM OMEGAMON for Networks on z/OS V5.5.0
    - IBM OMEGAMON for z/OS V5.5.0
    - IBM OMEGAMON Dashboard Edition on z/OS V5.5.0
    - IBM Tivoli Discovery Library Adapter V3.1.0 (JOBGEN support; now packaged in each OMEGAMON Family V5.5.0 standalone product package for PARMGEN use only)
  - New version of IBM OMEGAMON Performance Management Suite for z/OS V5.5.0. Suite is refreshed to include new versions products refreshed in the IBM Service Management Suite for z/OS of applicable V1.5.0.
  - New version of IBM OMEGAMON for z/OS Management Suite V5.5.0. Suite is refreshed to include new versions of applicable products refreshed in the IBM OMEGAMON Performance Management Suite for z/OS V5.5.0.
  - Updated helps to include new version of IBM Advanced Storage Management Suite V2.2 which includes support for the following products:
    - IBM Cloud Tape Connector for z/OS V1.1.0 (JOBGEN support)
    - IBM Advanced VSAM Manager for z/OS V2.6.0 (JOBGEN support)
    - IBM Advanced Archive for DFSMSHsm V1.1.0 (JOBGEN support)
  - Updated helps to include new version of IBM DB2 Query Monitor for z/OS V3.3.
  - Updated helps to remove the IBM OMEGAMON Serviceability Log Analysis references as this is now dropped from the Suites.
- Provided "Display a consolidated list of 'What's New' component READMEs" in PARMGEN UTILITIES panel to document the new IBM Knowledge Center URL Keys for the new 3Q17 product versions:

PRODUCT FAMILIES AND SUITES:	KEY:
o. IBM Service Management Suite for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSANTA">http://www.ibm.com/support/knowledgecenter/SSANTA</a> )	SSANTA
o. IBM OMEGAMON Performance Management Suite for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS7MFU">http://www.ibm.com/support/knowledgecenter/SS7MFU</a> )	SS7MFU
o. IBM OMEGAMON for z/OS Management Suite (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS5PJ9">http://www.ibm.com/support/knowledgecenter/SS5PJ9</a> )	SS5PJ9
o. IBM Advanced Storage Management Suite for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSZKUS">http://www.ibm.com/support/knowledgecenter/SSZKUS</a> )	SSZKUS
o. Tivoli Monitoring (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSTFXA">http://www.ibm.com/support/knowledgecenter/SSTFXA</a> )	SSTFXA
o. OMEGAMON Family (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSAUBV">http://www.ibm.com/support/knowledgecenter/SSAUBV</a> )	SSAUBV
o. IBM Operations Analytics - Log Analysis (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSPFMY">http://www.ibm.com/support/knowledgecenter/SSPFMY</a> )	SSPFMY
o. IBM Operations Analytics for z Systems (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS55JD">http://www.ibm.com/support/knowledgecenter/SS55JD</a> )	SS55JD
o. IBM Advanced Storage Management Suite for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSZKUS">http://www.ibm.com/support/knowledgecenter/SSZKUS</a> )	SSZKUS
o. Tivoli Advanced Allocation Management (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSFLUS">http://www.ibm.com/support/knowledgecenter/SSFLUS</a> )	SSFLUS
o. Tivoli Advanced Audit for DFSMSshm (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS4J89">http://www.ibm.com/support/knowledgecenter/SS4J89</a> )	SS4J89
o. Tivoli Advanced Backup and Recovery for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS4J7P">http://www.ibm.com/support/knowledgecenter/SS4J7P</a> )	SS4J7P
o. Tivoli Advanced Catalog Management for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS4J6U">http://www.ibm.com/support/knowledgecenter/SS4J6U</a> )	SS4J6U
o. Tivoli Advanced Reporting and Management for DFSMSshm (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSLKZD">http://www.ibm.com/support/knowledgecenter/SSLKZD</a> )	SSLKZD
o. Tivoli Automated Tape Allocation Manager for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSATAY">http://www.ibm.com/support/knowledgecenter/SSATAY</a> )	SSATAY
o. IBM Tivoli NetView for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSZJDU">http://www.ibm.com/support/knowledgecenter/SSZJDU</a> )	SSZJDU
o. IBM Tivoli for System Automation for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSWRCJ">http://www.ibm.com/support/knowledgecenter/SSWRCJ</a> )	SSWRCJ
o. ITCAM for Application Diagnostics (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSDTFJ">http://www.ibm.com/support/knowledgecenter/SSDTFJ</a> )	SSDTFJ
o. ITCAM for SOA (URL: <a href="http://www.ibm.com/support/knowledgecenter/SS3PHK">http://www.ibm.com/support/knowledgecenter/SS3PHK</a> )	SS3PHK
o. Tivoli Decision Support for z/OS (URL: <a href="http://www.ibm.com/support/knowledgecenter/SSH53X">http://www.ibm.com/support/knowledgecenter/SSH53X</a> )	SSH53X

- Provided currency and toleration support for the following updates:
  - Add z/OS 2.3
  - Add CICS TS V5.4
  - Drop DB2 V9.1 support in OMEGAMON for DB2 V5.4.0+
  - Drop IMS V9.1, IMS V10.1, IMS V11.1 support in OMEGAMON for IMS V5.5.0+

This also includes product rebranding support for the following products:

- OMEGAMON Family V5.5.0 products have removed "Tivoli" and "XE" as part of their official full product names.
- OMEGAMON Family V5.5.0 components have removed "on z/OS" as part of their official short product names similar to OMEGAMON Family V5.4.0 components such as OMEGAMON for JVM and OMEGAMON for Storage.
- OMEGAMON for CICS (formerly called OMEGAMON for CICS on z/OS)
- OMEGAMON for IMS (formerly called OMEGAMON for IMS on z/OS)
- OMEGAMON for Messaging - MQ (formerly called OMEGAMON for WebSphere MQ Monitoring)
- OMEGAMON for Messaging - Integration Bus (formerly called OMEGAMON for WebSphere MQ Broker)
- OMEGAMON for Networks (formerly called OMEGAMON for Mainframe Networks)
- OMEGAMON for z/OS (formerly called OMEGAMON on z/OS)

- Enhanced "Customize PARMGEN configuration profiles" processing by providing additional PARMGEN KCIJPDLA autodiscovery functions for the following members in the RTE's WCONFIG dataset:
  - WCONFIG(%RTE\_NAME%) LPAR RTE user profile:
    - Provided CICS TS V5.4 currency support. Autodiscover LPAR RTE user profile parameter for each CICS region to make it easier to set-up the On-line Data Viewer (ONDV) VSAM LDS RKC2HIST datasets for application history.
    - **KC2\_HSnn\_CLASSIC\_CICS\_REGION.**

**Note:** If z/OS Discovery Library Adapter FMID HIZD310's CICS TS V5.4 currency PTF UA92023 is applied, **KC2\_HSnn\_CLASSIC\_CICS\_REGION** LPAR RTE profile parameter is autodiscovered by the PARMGEN KCIJPDLA or KCIJPD3 job if there are CICS TS V5.4 regions online.

- WCONFIG(\$GBL\$USR) global RTE user profile:
    - New **GBL\_DSN\_CEE\_SCEERUN2** parameter (autodiscovered value can be used for monitoring Agents that require the LE/370 "C" runtime library to be concatenated in the STC's STEPLIB DD).
    - **GBL\_DSN\_CICS\_CTG\_DLL** parameter (autodiscovered value is concatenated in the OMEGAMON for CICS TG Agent started task's STEPLIB DD). In PARMGEN 3Q17 IF PTF UA91953, this value is prepopulated with the autodiscovered SCTGDLL dataset as the preferred library over the previous settings of SCTGLINK.
    - **GBL\_DSN\_NETVIEW\_CNMLINK** parameter (autodiscovered value is concatenated in the z/OS TEMS and Agent STCs' respective RKANMODL DD if you are enabling the ITM Forward Take Action commands to NetView for z/OS).
    - **GBL\_DSN\_IMS\_SCEXLINK** and **GBL\_DSN\_IMS\_SFUNLINK** parameters (autodiscovered value is concatenated in the OMEGAMON for IMS Agent started task's STEPLIB DD to exploit the IMS Connect Extensions Publisher API).
  - Updated WCONFIG(KJJ\$SDL4) post-configuration imbed to OMEGAMON for JVM Agent's xKANSAMU(KJJDFINL) "Complete the configuration" tailored on-line README (autodiscovered z/OS Connect JVM started tasks and their respective STDENV data). This autodiscovery is further enhanced in 3Q17 IF to detect in-stream "STDENV DD \*". The values are tailored into the OMEGAMON for JVM's post-configuration detailed monitoring enablement steps in the xKANSAMU(KJJDFINL) PARMGEN KJJ post-configuration tailored README).
  - New WCONFIG(KJJ\$SDL5) post-configuration imbed to OMEGAMON for JVM Agent's xKANSAMU(KJJDFINL) "Complete the configuration" tailored on-line README (autodiscovered IBM Operational Decision Manager (ODM) JVMs' HBRMSTR files).
- Provided additional PARMGEN z/OS DLA reports that aid staged maintenance and upgrades. With the function-specific PARMGEN KCIJPD1, KCIJPD2 and KCIJPD3 jobs, when to run these jobs provide the flexibility for customers to stage maintenance and upgrades to control when to refresh the following files:
    - IDML books
    - \$DLARPT report
    - LPAR RTE and \$GBL\$USR user profiles

In addition to the current \$DLARPT DLA report generated by either the KCIJPDLA "Composite PARMGEN z/OS Discovery Library Adapter (DLA) job" or the KCIJPD2 "Generate PARMGEN \$DLARPT report from DLA IDML books dataset" job, starting in PARMGEN 3Q17 IF, two new additional DLA reports are supported. The PARMGEN Utilities panel and a new PARMGEN DLA Menu (KCIQDLA) provides additional handy DLA shortcut commands to support these new reports, as shown below:

```

=====
DLA      DLA
Cmds.    Member/Report Displayed and Function
=====
-----
DLAMENU  Starting in PARMGEN 3Q17 Interim Feature (IF) PTF UA91953,
         the various PARMGEN KCIJPD* jobs, $DLA* reports and DLA*
         shortcut commands are provided in a menu format to make it
         easier to access key PARMGEN DLA autodiscovery tasks. You
         can access the PARMGEN DLA Menu (KCIQDLA panel) by typing
         the 'DLAMENU' command from the UTILITIES (KCIQPGU panel).
         The DLA artifacts are also still accessible via the
         UTILITIES panel.
-----
DLADLTA  Review the RTE's WCONFIG($DLADLTA) DLA delta report. This
         report is created by submitting the KCIJPDLA composite job
         or the KCIJPD2 "Generate PARMGEN $DLARPT report from DLA
         IDML books dataset" if both $DLARPT and $DLAMAP reports
         already exist in the RTE's WCONFIG dataset. 'DLADLTA'
         command displays the $DLADLTA delta report. This $DLADLTA
         delta report compares the previous $DLARPT report with the
         latest $DLARPT report run. The delta report highlights
         the changes in the %RTE_NAME% LPAR RTE user profile and
         the $GBL$USR global user profile.
-----
DLAMAP   Review the RTE's WCONFIG($DLAMAP) parameter DLA map
         report. This report is created by submitting the KCIJPDLA
         composite job or the KCIJPD3 "Refresh %RTE_NAME% /
         $GBL$USR user profiles with $DLARPT data" job. DLAMAP
         command displays the $DLAMAP report that maps what $DLARPT
         parameters equate to the equivalent PARMGEN %RTE_NAME% and
         $GBL$USR user profile parameters.
-----
Note:    The PARMGEN KCIJPD* jobs' comments and PARMGEN Utilities
         on-line help panel topics below also provide details on
         the new $DLAMAP and $DLADLTA reports:
         o From PARMGEN Utilities menu:
           "4  PARMGEN z/OS Discovery Library Adapter (DLA) support"
           "6  Additional Utility options/shortcut commands"
         o From the new PARMGEN DLA menu:
           "1  DLAMENU - PARMGEN DLA Menu - Overview"
           "2  PARMGEN z/OS Discovery Library Adapter (DLA) support"
           "3  DLA shortcut commands"

```

- Enhanced "Customize PARMGEN configuration profiles" processing by reducing product-specific LPAR RTE profile parameters that are coupled with automatic discovery of system properties. Continuous simplification of the deployment process is the key goal. With PARMGEN z/OS DLA autodiscovery functions, the need to customize product parameter values are greatly reduced. With mostly discovered data, streamlining how the product parameters are presented to the customers, is simplified further in PARMGEN 3Q17 IF PTF UA91953 with useful parameter PF Key macros:

```

o F23=BASIC   to display only required product parameters or
              parameters with best-practice IBM defaults but may
              need to be overridden based on your site deployment
              needs.
o F24=ADVANCED to display only advanced (optional and/or conditional)
              product parameters with best-practice IBM defaults but
              may need to be overridden based on your site
              deployment needs.
o F22=SEARCH  to search parameters in PARMGEN IK*/W*/RK* libs.

```

Basic (F23=BASIC PF Key) and Advanced (F24=ADVANCED PF Key) LPAR RTE profile parameter handling and ease-of-use grouping help a great deal especially for first-time-users.

All products that PARMGEN configures in the various product suites benefit from this enhancement. When an LPAR RTE profile is created in a new RTE, or is refreshed in an existing RTE that is being maintained or upgraded the WCONFIG dataset, the various product parameters will be grouped with these helpful sections:

```

** ($$BEGIN - BASIC SECTION (&ppp - &component name)
** ($$END   - BASIC SECTION (&ppp - &component name)
** ($$BEGIN - ADVANCED SECTION (&ppp - &component name)
** ($$END   - ADVANCED SECTION (&ppp - &component name)

```

The following products can take advantage of this streamlined Basic and Advanced LPAR RTE profile parameter grouping. The GA versions as well as any supported earlier versions benefit from this enhancement with PARMGEN 3Q17 IF PTF UA91953 applied:

```

-----
Kpp Component Name and GA Version
-----
KAH System Automation Monitoring Agent V3.5.0
KCN OMEGAMON Subsystem V7.5.0
KC5 OMEGAMON for CICS V5.5.0
KDO Tivoli Decision Support for z/OS Agent V1.8.1
KDS Tivoli Enterprise Monitoring Server V6.3.0
KD4 ITCAM for SOA Agent V7.1.1
KD5 OMEGAMON for DB2 PE/PM V5.4.0
KGW OMEGAMON for CICS TG V5.5.0
KI5 OMEGAMON for IMS V5.5.0
KJJ OMEGAMON for JVM V5.4.0
KMC OMEGAMON for Messaging - WebSphere MQ Configuration V7.3.0
KMQ OMEGAMON for Messaging - MQ V7.5.0
KM5 OMEGAMON for z/OS V5.5.0
KNA NetView for z/OS Agent V6.2.1
KN3 OMEGAMON for Networks V5.5.0
KOB OMEGAMON Enhanced 3270 User Interface V7.5.0
KQI OMEGAMON for Messaging - Integration Bus V7.5.0
KRG Advanced Audit for DFSMSHsm Agent V2.6.0
KRH Advanced Reporting and Management for DFSMSHsm Agent V2.6.0
KRJ Advanced Allocation Management Agent V3.3.0
KRK Automated Tape Allocation Manager for z/OS Agent V3.3.0
KRN Advanced Catalog Management Agent V2.6.0
KRV Advanced Backup and Recovery for z/OS Agent V2.4.0
KRW Tape Optimizer for z/OS Agent V2.2.0
KS3 OMEGAMON for Storage V5.4.0
KWO OMEGAMON Dashboard Edition - OMEGAVIEW V5.3.0
KYN ITCAM for Application Diagnostics, TEMA V7.1.0.03

```

- Enhanced "Customize PARMGEN configuration profiles" processing by reducing over 575 total product-specific LPAR RTE profile parameters for removed product features documented in the OMEGAMON Family V5.5.0's respective product documentation. Refer to the "What's new in the OMEGAMON version 5.5.0 family products (3Q17 release)" topic in the OMEGAMON shared documentation, which has a composite table that lists the products' "What's New" KC links. A number of these removed features are as follows:
  - For all OMEGAMON products:
    - Removed the Common User Access (CUA) interface (also referred to as "OMEGAMON II") to reduce complexity and cost of ownership in the monitoring environment. SMEs experience improved ease of use since all key workspaces are now represented in the enhanced 3270 user interface (enhanced 3270UI) for additional problem solving capability. CUA is eliminated in Version 5.4 and Version 5.5 since functions which could be accomplished with CUA in previous releases, can now be accomplished with enhanced 3270UI.
    - For staged upgrade planning, use the KCIJPW1R job to delete any obsolete runtime members that are no longer generated by the PARMGEN \$PARSE\* job for the product-specific deprecated functions (CUA-related product runtime members, Epilog-related product runtime members, and other obsolete functions) from the product-execution user libraries for each RTE to upgrade (RKANCMDU, RKANPARU, RKANSAMU, RKD2PAR, RKD2PRF and RKD2SAM), when the product started tasks are not in use. The PARMGEN \$PARSE "(Re)create runtime members and jobs" will not generate these members in the PARMGEN WK\* staging work user libraries (WKANCMDU, WKANPARU, WKANSAMU, WKD2PAR, WKD2PRF and WKD2SAM), once PARMGEN detects that the versions of the products installed in the %GBL\_TARGET\_HILEV%.TK\*/CSI are at the latest V5.4/V5.5/V7.5 FMIDs. PARMGEN also has logic added to no longer generate over 575 product-specific LPAR RTE profile parameters in the WCONFIG(%RTE\_NAME%) LPAR RTE user profile once you refresh the RTE supported by the "1. Set up/Refresh PARMGEN work environment" processing on the "PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU".
    - PARMGEN KCIJPALO processing changes:
      - If the minimum OMEGAMON version is V5.5.0, increase space allocation for the following datasets to accommodate the V5.5 SMP/E requirements:
        - read-only %RTE\_X\_HILEV\_SHARING%.%RTE\_SHARE%.RKANWENU shared dataset.
        - RTE-specific %RTE\_HILEV%.%RTE\_NAME%.RKANDATV dataset

- If the minimum OMEGAMON for Networks FMID HKN3vuv version is V5.5.0, add logic in PARMGEN to no longer allocate the read-only %RTE\_X\_HILEV\_SHARING%. %RTE\_SHARE%.RKANSAS shared dataset.
- PARMGEN KCIJPLOD/KCIJPW1R/KCIJPW2R dependencies and changes:
  - If the minimum OMEGAMON for Networks FMID HKN3vuv version is V5.5.0, add logic in PARMGEN to no longer load the read-only %RTE\_X\_HILEV\_SHARING%. %RTE\_SHARE%.RKANSAS shared dataset as the SMP/E target dataset %GBL\_TARGET\_HILEV%.TKANSAS is no longer shipped starting in HKN3550 FMID. The KCIJPLOD job is updated to no longer generate the KANSAS IEBCOPY step in this scenario.
  - New DELRUN2 step is added to delete obsolete modules from the xKANMOD\* load libraries, obsolete Object Definition Information (ODI) files from the RTE's RKANDATV, obsolete panels from the read-only RKANWENU, and obsolete screenspace from the read-only RKppPROC profile dataset, once PARMGEN detects that the minimum OMEGAMON version installed is V5.5.0/V7.5.0.
  - New handy standalone KCIDELJB job is available for staged upgrades. This standalone job is the equivalent of the BUILDEX\*/DELRUN\* steps of the composite KCIJPLOD job. Submit the composite KCIDELJB standalone job, which deletes obsolete elements in read-only runtime dataset copies of the %GBL\_TARGET\_HILEV%. TK\* SMP/E target datasets. Run this job when the started tasks are not running in order to do the clean-up.

**Tip:** Related to using the KCIJPLOD job's new DELRUN2 step to clean-up these obsolete read-only elements from the read-only product execution datasets (RKANMOD\* load libraries, RKANDATV ODI library, RKANWENU enhanced 3270UI workspace library, etc.), use the KCIJPW1R job to clean-up obsolete PARMGEN tailored runtime members from the product execution user libraries when the product started tasks are not running.

- PARMGEN KCIJPW1R/KCIJPW2R dependencies and changes:  
For staged upgrade planning, use the KCIJPW1R job to delete any obsolete runtime members that are no longer generated by the PARMGEN \$PARSE\* job for the product-specific deprecated functions (CUA-related product runtime members, Epilog-related product runtime members, and other obsolete functions) from the product-execution user libraries for each RTE to upgrade (RKANCMDU, RKANPARU, RKANSAMU, RKD2PAR, RKD2PRF and RKD2SAM), when the product started tasks are not in use.

**Tip:** You do not have to delete these obsolete runtime members from the product execution user libraries (RK\* user) immediately after SMP/E upgrade and reconfiguration of the RTEs pointing to the upgraded SMP/E target datasets. The product started tasks upgraded and loaded with the latest OMEGAMON V5.5 code will continue to run and tolerate the obsolete runtime members. You can continue to use the KCIJPW2R "Copy runtime mbrs from WK\*->RK\* RW libraries" to refresh the RK\* user libraries after an upgrade following either the [SMPE04](#), [SMPE05](#), or [SMPE06](#) upgrade scenario.

- PARMGEN KCIJPSEC processing changes:  
If the minimum OMEGAMON for IMS FMID HKI5vuv version is V5.5.0, add logic in PARMGEN to:  
remove IMS V9.1-related module (KOICTJQ), IMS V10.1-related module (KOICTKQ) and IMS V11.1-related module (KOICTLQ) from COPYKOIM step and KOISUPDI PROC in the composite job and in the xKANSAMU(KOISUPD) standalone OMEGAMON for IMS security tailored job.

**Tip:** Before you rerun KCIJPSEC job, you must take steps to disable/enable IMS related modules no longer shipped/newly shipped in the version of OMEGAMON for IMS installed by FMID HKI5vuv. For detailed information, see "Enabling the IMS version-related modules" topic in the [OMEGAMON for IMS documentation](#). In summary, customize the

WCONFIG(KI2\$SSC\*) override imbeds prior to rerunning the \$PARSE\* job, which refreshes the upgraded KCIJPSEC job.

- PARMGEN KCIJPLNK processing changes:
  - LKEDppp steps are no longer generated for OMEGAMON for IMS and OMEGAMON for Networks. Their corresponding standalone version of these link jobs (KI2BLDLI for OMEGAMON for IMS, and KONLINK for OMEGAMON for Networks) are also removed starting in V5.5.0.
- For OMEGAMON for IMS:
  - IMS Console Facility (I/CF) is no longer supported, so the relevant messages, PARMGEN product parameters, runtime members, jobs and commands are removed. Use the new feature of IMS Commander, which is implemented within the OMEGAMON enhanced 3270 user interface.
  - Individual settings as a configuration choice for the **KI5\_IInn\_★ KIPCNFG** XE collectors are removed to simplify configuration. Instead, unless otherwise specified in PARMGEN, IMS Connect AUTODISCOVER is set to YES by default. PARMGEN logic is in place to continue to support the advanced KIPCNFG XE granular collectors in earlier versions of OMEGAMON for IMS, but it is recommended to take the PARMGEN LPAR RTE default settings.
  - IMS Command Batch Message Processing interface (known as the BMP interface) that is designed to supplement the Write-to-Operator with Reply (WTOR) interface is no longer supported, so the PARMGEN product parameters, runtime members, jobs and commands are removed. Use the ICMD feature in the KIPCMD workspace from the OMEGAMON enhanced 3270 user interface.
  - ATF Detail Exception Data DETXLOGR=%KI2\_LOGR\_LS\_PREFIX%.&imsid.DX VSAM dataset is no longer allocated or processed in the KI2ATFmp runtime members.
- For OMEGAMON for z/OS:
  - Epilog is no longer supported, so the relevant messages, PARMGEN product parameters, runtime members, jobs and commands are removed. Use the product's replacement feature, which is implemented within the OMEGAMON enhanced 3270 user interface.
- For OMEGAVIEW/OMEGAVIEW II for the Enterprise:
  - Starting in OMEGAMON Dashboard Edition on z/OS V5.5.0, OMEGAVIEW Agent configuration is removed. Use the product's replacement feature, which is implemented within the OMEGAMON enhanced 3270 user interface.
- For End-to-End Response Time Monitor started task, this common component is applicable to the following products only. ETE is no longer supported in the V5.5.0 Family:
  - OMEGAMON for CICS V5.3.0 and earlier versions only
  - OMEGAMON for IMS V5.1.0 and earlier versions only
  - OMEGAMON for Networks V5.3.0 and earlier versions only
  - OMEGAMON for z/OS V5.3.0 and earlier versions only
  - PARMGEN KCIJPLOD processing changes:

If HKET620 End-to-End FMID is not installed, adjust the logic in PARMGEN when to generate the KANMODR IEBCOPY step from SMP/E %GBL\_TARGET\_HILEV%.TKANMODR target dataset to the read-only RKANMODR base dataset. TKANMODR is only SMP/E packaged by the HKET620 End-to-End FMID, the OMEGAMON for CICS FMID HKC5vvv and the OMEGAMON for IMS FMID HKI5vvv.
  - PARMGEN KCIJPSYS processing changes:

With similar SMP/E requirements noted above, add logic in PARMGEN to no longer generate the ETE started task nor copy it to the system PROCLIB dataset (%GBL\_DSN\_SYS1\_PROCLIB%), nor generate its START/STOP %RTE\_CANSETE\_STC% commands in the composite xxxxSTRT/xxxxSTOP tailored PROCs.
- Provided additional IVP advanced validation checks:

- Detect an error condition when customer executes the "DLAJOB" shortcut command on the "Customize PARMGEN configuration profiles" KCIP@PG6 panel but the z/OS DLA SMP/E SIZD\* target datasets do not exist or customer has a different zDLA high level qualifier (IZDHLQ parameter) in the DLADISC step of KCIJPDLA job.
- Detect an error condition when customer executes the "DLAJOB" shortcut command on the "Customize PARMGEN configuration profiles" KCIP@PG6 panel but the z/OS DLA FMID HIZD310 is not installed. Provide a warning that IZDHLQ must point to the SMP/E HLQ where you installed FMID HIZD310. UA78769 also introduced the SMPTLOAD requirement. See sample KCIDDFJB SMPTLOAD DDDEF job in %GBL\_TARGET\_HILEV%.TKANSAM(KCIDDFJB) for more information.
- Detect a warning condition when specifying a new **GBL\_USER\_JCL** PARMGEN JCL library using a NONSMS-managed HLQ, but no required VOLUME and UNIT values were supplied on the KCIP@TLV panel. In this case, provide a warning message to re-invoke PARMGEN using the INIT invocation option:

```
%GBL_USER_JCL% ALLOC failed!
If using NONSMS HLQ, use %GBL_TARGET_HILEV%.TKANSAM(KCIALOJB).
Or re-invoke PARMGEN and pass on the 'INIT' option. For example
Command ==> EX '%GBL_TARGET_HILEV%.TKANCUS' 'INIT' "
```

- Enhanced the PARMGEN KCIJPDLA\* processing to generate helpful "\*" zDLA \$DLARPT job no DB2 auth" in the autodiscovered "KD2\_DBnn\_DB2\_VER" OMEGAMON for DB2 LPAR RTE profile parameter alerting customers when DB2 Authorizations have not been performed prior to using the KCIJPDLA function. The KCIJPDLA\* jobs have been updated to list the DB2 specific SQL GRANT commands.

#### Note:

Technote [Preinstallation Requirements and Instructions](https://www.ibm.com/support/docview.wss?uid=swg21318692) (<https://www.ibm.com/support/docview.wss?uid=swg21318692>) has been updated with "Important System Requirements:" zDLA requirements.

- Provided JOBGEN support for IBM Tivoli Discovery Library Adapter FMID HIZD310.

**Tip:** JOBGEN file-tailors SMP/E jobs that accommodate the SMP/E requirements of FMID HIZD310, ideally installed in an existing or new OMEGAMON/ITM CSI, where one can take advantage of using the PARMGEN z/OS DLA integration autodiscovery jobs (KCIJPDLA). Each OMEGAMON Family V5.5.0 standalone product package will now ship the z/OS DLA FMID HIZD310 by default (for PARMGEN use only).

- Provided a new "R" option to make it easier to (R)efresh the product templates and IBM-supplied default profiles prior to recreating the product runtime members. This is applicable to [SMPE02](#) or [SMPE03](#) maintenance scenario.

Description	Job Name
R Refresh IK* templates/WCONFIG *\$IBM profiles.	KCIJPUP1
1. Create runtime members/jobs in all WK* libs.	\$PARSE

## Product-specific enhancements

The following product-specific enhancements are provided in this release:

### Tivoli Management Services: Engine infrastructure common to all z/OS TEMS and Agents

The following features are added:

- (Common to all z/OS TEMS and z/OS Agents) Enhanced configuration to auto-discover the following parameter values by the PARMGEN z/OS DLA integration:
  - Auto-discover new \$GBL\$USR global user profile parameter **GBL\_DSN\_CEE\_SCEERUN2**. The auto-discovered value can be used for monitoring Agents that require the LE/370 "C" runtime library to be concatenated in the STC's STEPLIB DD.

- Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_NETVIEW\_CNMLINK**. The auto-discovered value is concatenated in the z/OS TEMS and Agent STCs' respective RKANMODL DD if you are enabling the ITM Forward Take Action commands to NetView for z/OS.

**Tip:** It is ideal to customize this library as part of initial RTE deployment even if the respective ITM features that require the CNMLINK dataset is not yet enabled. Auto-discovering this load library value ensures that PARMGEN sets up the product started tasks' STEPLIB DD to concatenate this dataset to avoid recycling the TEMS and Agent started tasks later.

- Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA** for SYSTCPD DD that is required for a number of ITM features if enabled (for example, if LPAR contains more than one TCP/IP stack).
- Provide a new handy RTE RKANSQULU(KDSSQLD) Sample SPUFIL Delete SQL statements member, to remove obsolete product entries in the O4SRV.T\* z/OS TEMS Enterprise Information Base (EIB) tables (%RTE\_VSAM\_HILEV%.%RTE\_NAME%.RKDS\* VSAM datasets). PARMGEN KCIJPLOD job is updated to provide a new SSQLIBCP IEBCOPY step to copy this new KDSSQLD member (along with the handy new KDSSQL1 SDA TAPPLPROPS RKDSAPPL TEMS VSAM member introduced in PARMGEN 4Q16 IF), from the PARMGEN WKANSAMU work staging dataset to the product-execution RTE RKANSQULU dataset. PARMGEN automatically concatenates the RKANSQULU dataset in the TEMS' SSQLIB DD, where the TEMS SPUFIL processing is operationally performed during TEMS CTDS SPUFIL invocation.

**Tip:** On distributed platforms, performing this SPUFIL equates to the tacmd deleteappinstallrecs function. Having a handy KDSSQL\* members supplied by PARMGEN provides an alternative to perform the function on the readily-available z/OS platform, if the distributed TEPS is not available or is not yet set-up.

- Enhance RKANSAMU(KCIODIJB) standalone RKANDATV refresh job and the new cross-RTE %GBL\_USER\_JCL%(KCIJ@ODI) RKANDATV refresh job to also generate a useful VVRRMMFF table which helps with the distributed TACMD execution planning \*PRIOR\* to the various Agents' product startup:

```
Example KCIODIJB output:
KCIRDATV - I (Reference) List of Product Code and Version for TACMD
KCIRDATV - I TKANDATV pp VRMF = vvrrmmff
KCIRDATV - I ===== == =====
KCIRDATV - I KAHVRTMS AH VRMF = 03500000
KCIRDATV - I KCPVRTMS CP VRMF = 05500000
KCIRDATV - I KDPVRTMS DP VRMF = 05400000
KCIRDATV - I KGWVRTMS GW VRMF = 05500000
KCIRDATV - I KIPVRTMS IP VRMF = 05500000
KCIRDATV - I KJJVRTMS JJ VRMF = 05400200
KCIRDATV - I KM5VRTMS M5 VRMF = 05500000
KCIRDATV - I KNAVRTMS NA VRMF = 06210000
KCIRDATV - I KN3VRTMS N3 VRMF = 05500000
KCIRDATV - I KQQVRTMS QQ VRMF = 03200000
KCIRDATV - I KRGVRTMS RG VRMF = 02600000
KCIRDATV - I KRHVRTMS RH VRMF = 02600000
KCIRDATV - I KRJVRTMS RJ VRMF = 03300002
KCIRDATV - I KRKVRTMS RK VRMF = 03300001
KCIRDATV - I KRNVRTMS RN VRMF = 02600000
KCIRDATV - I KRVRTMS RV VRMF = 02400001
KCIRDATV - I KS3VRTMS S3 VRMF = 05400001
```

To generate the new cross-RTE %GBL\_USER\_JCL%(KCIJ@ODI) RKANDATV refresh job, type the LOADDATV command on the Runtime Environments (RTEs) panel (KCIP@RTE). Get to the Runtime Environments (RTEs) panel (KCIP@RTE) via one of the following ways:

- Option **0** from the PARMGEN UTILITIES menu.
- Type a ? on the RTE\_NAME field of the **KCIPQPGA "PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU**.
- Add placeholder parameter support for the following parameters in the WCONFIG(KDS\$PENV) imbed to the TEMS xKANPARU(KDSENV) environmental file, which is read at TEMS STC startup.

```

** o CMS_NODE_VALIDATION parameter enables the rejection of
**   incorrect managed system names.
- *CMS_NODE_VALIDATION=YES
- *CMS_NODE_VALIDATION=&KDS_CMS_NODE_VALIDATION.

```

- Add best-practice user symbols for WCONFIG(KDS\$PENV) placeholder parameters so they are ready for the KCIPARSE step during variables substitution step at TEMS startup. IBM default variables profile %GBL\_USER\_JCL%(KCI\$RTEV) adds the following user symbol definition:

```
KDS_CMS_NODE_VALIDATION  YES          *default if used
```

- Enhance KCIJPUSP job's KDSUSSDV step to use **RTE\_USS\_MKDIR\_MODE** parameter value (default=775) to customize the oshell chmod %RTE\_USS\_MKDIR\_MODE% z/OS® UNIX® System Services command in the RKANDATV(KDSUSS) member. This member copies the RKANDATV(KDSDPROF) TEMS\_JAVA\_BINPATH member to z/OS UNIX.

**Tip:** The ability to customize the permission bits in the z/OS UNIX command caters to sites that implement the new UMASK() override permissions at the system level (for example, UMASK override of 0007 means no permissions altogether for the OTHER bit regardless what the PARMGEN mkdir commands created the directories in the KCIJPUSP job).

- Update xKANSAMU(KDSDFINL) post-configuration step "Step 4 - Copy procedures to %GBL\_DSN\_SYS1\_PROCLIB%" to add this refresh note when adding products to an existing TEMS after initial configuration:

Note:

- Certain products add special product-specific DDNAMEs to the %KDS\_TEMS\_STC% TEMS started task when the respective products are configured in the RTE. These products are as follows:

- o OMEGAMON for Messaging - MQ Configuration (KMC) Agent adds RKCF\* DDNAMEs to the TEMS started task:

Example:

```

//RKCFDLOG DD DISP=SHR,
//          DSN=&RHILEV..&SYS..RKCFDLOG
//RKCFAPLT DD DISP=SHR,
//          DSN=&RVHILEV..&SYS..RKCFAPLT
//RKCFAPLA DD DISP=SHR,
//          DSN=&RVHILEV..&SYS..RKCFAPLA
//RKCFAPLN DD DISP=SHR,
//          DSN=&RVHILEV..&SYS..RKCFAPLN
//*DSNAOINI DD DISP=SHR,
//*          DSN=&RHILEV..&SYS..RKANPARU(KCFDBINI)

```

- o OMEGAMON for Storage (KS3) Agent adds SYSTSPRT and RKS3I\* DDNAMEs to the TEMS started task:

Example:

```

//SYSTSPRT DD SYSOUT=&SOUT
//RKS3IRDR DD SYSOUT=(,INTRDR)
//RKS3IDCO DD DUMMY

```

- Update the PARMGEN F1=Help Parameter On-line Help text for the TEMS' **KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND** LPAR RTE profile parameter in the WCONFIG(%RTE\_NAME%):

"Tip: The default values should work for most cases, but if you have a large shop and numerous ITM components (other TEMS, Agents) communicating to this TEMS running on this LPAR, or z/OS Agents running in this local TEMS address space, please review this documentation for best practice storage deployment considerations:  
<http://www.ibm.com/support/docview.wss?uid=swg21501180>"

**KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND** LPAR RTE profile parameter value populates the **MINIMUM(%KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND%,X)** parameter in the TEMS' RKANPARU(KDSSYSIN) runtime member. Default is **MINIMUM(768000,X)** parameter.

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON Enhanced 3270 User Interface V7.5.0 and OMEGAMON Subsystem V7.5.0, which are OMNIMON base features delivered in the HKOB750 FMID. The following configuration enhancements are provided to support new features in this new version.

- Add placeholder parameter support for the following parameters in the WCONFIG(KOB\$PENV) imbed to the TOM xKANPARU(KOBENV) environmental file, which is read at OMEGAMON enhanced 3270UI (%KOB\_TOM\_STC%) TOM STC startup.
  - **PNG\_TIMEOUT=&KOB\_PNG\_TIMEOUT**
  - **SO\_TIMEOUT=&KOB\_SO\_TIMEOUT**
  - **DIS\_TIMEOUT=&KOB\_DIS\_TIMEOUT**
- Add best-practice user symbols for WCONFIG(KOB\$PENV) placeholder parameters so they are ready for the KCIPARSE step during variables substitution step at TOM startup. IBM default variables profile %GBL\_USER\_JCL%(KCI\$RTEV) adds the following user symbol definitions:

- KOB_PNG_TIMEOUT	1	*default if used
- KOB_SO_TIMEOUT	15	*default if used
- KOB_DIS_TIMEOUT	30	*default if used

- Update xKANSAMU(KOBDINL) post-configuration step "(Optional) Complete enablement of alternate XKAN\* Tivoli OMEGAMON (TOM) datasets for other integration products that deliver workspaces and other OMEGAMON enhanced 3270UI support elements" to document new version KQQ IBM DB2 Query Monitor for z/OS V3.3.
- Change default values of the following parameters in the WCONFIG(KOB\$PENV) imbed to xKANPARU(KOBENV):
  - **PNG\_TIMEOUT=2 to PNG\_TIMEOUT=1**
  - **DIS\_TIMEOUT=2 to DIS\_TIMEOUT=30**

#### OMEGAMON for CICS V5.3.0 and V5.5.0

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON for CICS on z/OS V5.5.0 (HKC5550 FMID). The following configuration enhancements are provided to support new features in this new version.

- Enhance configuration of KC2GLB globals customization in PARMGEN UTILITIES panel option **10**. **GBL\_DSN\_GLOBAL\_SOURCE\_LIB** navigation by clarifying the usage of these KC2GLB globals ONDV parameters:

```
<ONLINE_VIEWER>
DATA_STORE_TYPE=
DATA_STORE_FILE_NAME=
```

For customers enabling usage of the On-line Data Viewer (ONDV) task history RKC2HIST VSAM LDS as the storage type (**DATA\_STORE\_TYPE=FILEOCMP** or **DATA\_STORE\_TYPE=AUTO**), enablement instructions are needed in the OMEGAMON for CICS KC2GLB manage global documentation that customers must add the key **DATA\_STORE\_FILE\_NAME** parameter in the KC2GLB global in use by the OMEGAMON for CICS Classic started task's RKC2GLBL DDNAME. The **DATA\_STORE\_FILE\_NAME** parameter is not supplied by the OMEGAMON for CICS product by default, because its default ONDV task history storage is dataspace.

Enablement instructions are added to the PARMGEN globals in-context help. Syntax examples of **DATA\_STORE\_FILE\_NAME** are also provided.

-----  
KCIPGLH2 Product Global Data Area EDIT Help Panel  
-----

Cursor: <ONLINE\_VIEWER> \*  
DATA\_STORE\_TYPE  
-----

DATA\_STORE\_TYPE=DSPACE

If this parameter is omitted, the default is DSPACE.

#### DSPACE

DSPACE indicates that data for task history collection is saved in a dataspace owned by the OMEGAMON for CICS (3270) interface. This data is saved until the task history collector terminates.

#### FILEOCMP

FILEOCMP indicates that task history data is saved in a VSAM linear dataset. No z/OS dataspace is used. FILEOCMP is required if you have a very large number of CICS transaction records that you wish to access through the ONDV command in OMEGAMON for CICS (3270) interface.

The size of the VSAM file does not have an impact on the amount of virtual storage used in the OMEGAMON for CICS or CICS address spaces. FILEOCMP causes data to be compressed before it is written to the data store.

The file should be allocated prior to restarting the CICS address space using this FILEOCMP monitoring option. Refer to the planning and configuration guide for further information.

Note: You must add the DATA\_STORE\_FILE\_NAME parameter if you are using DATA\_STORE\_TYPE=FILEOCMP or DATA\_STORE\_TYPE=AUTO.

#### AUTO

AUTO indicates that the value of DATA\_STORE\_TYPE could automatically be switched between DSPACE and FILEOCMP. The value FILEOCMP is used if the file which is specified for a CICS region exists. If no file matches the definition then the value DSPACE is used.

Notes: This parameter is applicable to OMEGAMON for CICS V5.5.0 and higher versions only.

You must add the DATA\_STORE\_FILE\_NAME parameter if you are using DATA\_STORE\_TYPE=FILEOCMP or DATA\_STORE\_TYPE=AUTO.

Whether you use a dataspace or linear dataset, the task history collector writes records using a wraparound format. Once the dataspace or dataset is full, the task history collector resumes writing records from the beginning, overlaying the previous data.

```
Cursor: <ONLINE_VIEWER> *
      DATA_STORE_FILE_NAME
```

```
-----
DATA_STORE_FILE_NAME=
```

Specifies the name of a VSAM linear dataset when the DATA\_STORE\_TYPE=FILEOCMP or DATA\_STORE\_TYPE=AUTO is specified.

You can share global data area modules (but not VSAM datasets) across different CICS regions even though a dataset name is specified in the global data area module. To do this, you must insert one wildcard character (\*) somewhere in the VSAM dataset name on this operand. When the task history collector is running, the wildcard character is replaced by the job name of the CICS region being monitored. The wildcard character may appear anywhere in the dataset name and should occur only once.

Syntax example:

```
o DATA_STORE_FILE_NAME=&rtevh1q.&rte.*.RKC2HIST
```

(where:

- &rtevh1q = Your RTE\_VSAM\_HILEV VSAM HLQ value you specified during PARMGEN RTE configuration in the RTE's WCONFIG(%RTE\_NAME%) LPAR RTE profile).
- &rte = Your RTE\_NAME LPAR RTE name)

Note:

In PARMGEN, review the KC2\_HS\* table parameter rows in the RTE's WCONFIG(%RTE\_NAME%) LPAR RTE profile to enable the allocation of the ONDV task history VSAM LDS %RTE\_VSAM\_HILEV.%RTE\_NAME%.%KC2\_HSnn\_CICS\_REGION%.RKC2HIST in the PARMGEN-tailored xKANSAMU(KC2HISJB) standalone OMEGAMON for CICS task history VSAM allocation job or in the xKANSAMU(KCIJPALO) composite dataset allocation job.

- Add new **Step 8 - (Optional) Start/stop product functions dynamically** step in xKANSAMU(KC5DFINL) post-configuration on-line README to provide a quick way to increase the OMEGAMON for CICS Agent's WLM BLOCKS parameter dynamically and thereby avoid recycling the OMEGAMON for CICS Agent.
- OMEGAMON CUA, Epilog and End-to-End features are no longer supported, so the relevant messages, PARMGEN product parameters, runtime members, jobs and commands are removed. Use the product-specific replacement features, which are implemented within the OMEGAMON enhanced 3270 user interface.

### OMEGAMON for CICS TG V5.3.0 and V5.5.0

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of OMEGAMON for CICS TG V5.5.0 (HKGW550 FMID), which is part of the IBM OMEGAMON for CICS on z/OS product package. The following configuration enhancements are provided to support new features in this new version.

- Enhance configuration to autodiscovery the following parameter values by the PARMGEN KCIJPDLA discovery job:
  - Auto-discover LPAR RTE user profile parameter for each CICS TG Gateway Daemon STC name or the WebSphere region: **KGW\_SAnn\_CTG\_DAEMON\_STC**.
  - Auto-discover \$GBL\$USR global user profile parameters **GBL\_DSN\_CICS\_CTG\_DLL** CICS TG Dynamic Link Library. Auto-discovered value is concatenated in the OMEGAMON for CICS TG Agent started task's STEPLIB DD. In PARMGEN 3Q17 IF PTF UA91953, this value is pre-populated with the auto-discovered SCTGDLL dataset as the preferred library over the previous settings of SCTGLINK.

### OMEGAMON for IMS V5.3.0 and V5.5.0

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON for IMS on z/OS V5.5.0 (HKI5550 FMID). The following configuration enhancements are provided to support new features in this new version.

- Enhance configuration to auto-discover the following parameter values by the PARMGEN KCIJPDLA discovery job:
  - Auto-discover \$GBL\$USR global user profile parameters:

- **GBL\_DSN\_IMS\_SCEXLINK** IMS Connect load library
- **GBL\_DSN\_IMS\_SFUNLINK** IMS Connect load library
- **GBL\_DSN\_IMS\_RESLIB** IMS RESLIB load library
- Auto-discover LPAR RTE user profile parameter for each IMS subsystem monitored:
  - **KI2\_I1nn\_CLASSIC\_IMSID**
  - **KI2\_I1nn\_CLASSIC\_IMS\_RESLIB**
- Automatically instantiate each IMS-subsystem specific parameter value for each IMS subsystem discovered to ensure uniqueness as the product requires that each IMS subsystem is monitored by a unique OMEGAMON for IMS MPREFIX, Classic started task, Classic VTAM major node, and Classic VTAM APPLID, as shown in the example of 2 IMS subsystem rows auto-discovered:

```

Example:
- KI2_I101_CLASSIC_MPREFIX      M0
- KI2_I101_CLASSIC_STC          IBM0I0
- KI2_I101_CLASSIC_VTAM_NODE    CTDOI0N
- KI2_I101_CLASSIC_VTAM_APPL    CTDOI0
- KI2_I102_CLASSIC_MPREFIX      M1
- KI2_I102_CLASSIC_STC          IBM0I1
- KI2_I102_CLASSIC_VTAM_NODE    CTDOI1N
- KI2_I102_CLASSIC_VTAM_APPL    CTDOI1

```

- Change **KI2\_I1nn\_CLASSIC\_LROWS** default value from 255 to 9999. Existing RTEs are not impacted. The new default value takes effect for new RTEs created after you apply PARMGEN 3Q17 IF PTF.
- Change LPAR RTE profile parameter **KI5\_X\_AGT\_STORAGE\_LIMIT\_EXTEND** default value from 23 to 24.  
**KI5\_X\_AGT\_STORAGE\_LIMIT\_EXTEND** LPAR RTE profile parameter value populates the **LIMIT(%KI5\_X\_AGT\_STORAGE\_LIMIT\_EXTEND%,X)** parameter in the Agent's RKANPARU(KI5SYSIN) runtime member. New default is **LIMIT(24,X)** parameter (applicable to new RTEs created with PTF UA91953 applied).
- OMEGAMON CUA and End-to-End features are no longer supported, so the relevant messages, PARMGEN product parameters, runtime members, jobs and commands are removed. Use the product-specific replacement features, which are implemented within the OMEGAMON enhanced 3270 user interface.

### OMEGAMON for Messaging (WebSphere MQ, a.k.a. MQ Monitoring) V7.3.0 and V7.5.0

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON for Messaging on z/OS - MQ V7.5.0 (HKMQ750 FMID). The following configuration enhancements are provided to support new features in this new version.

- Enhance configuration to auto-discover the following parameter values by the PARMGEN KCIJPDLA discovery job:
  - Auto-discover \$GBL\$USR global user profile parameters for WebSphere MQ load libraries:
    - **GBL\_DSN\_WMQ\_SCSQANLE**
    - **GBL\_DSN\_WMQ\_SCSQAUTH**
    - **GBL\_DSN\_WMQ\_SCSQLOAD**
  - Auto-discover WCONFIG(KMQ\$CUR) RKANCMU(KMQUSER) imbed to add placeholder entries for discovered MQ Queue managers.
- Update the RTE xKANSAMU(KCIDFINL) post-configuration on-line README step "7c) Add the following modules to the IPL linklist" to add KMQAMHSE module introduced by HKMQ730 PTF UA82781. It reads: "KMQASSIN, KMQAMHST, KMQAMHSD, KMQAMHSE modules (OMEGAMON for Messaging) in load library (TKANMOD SMP/E target or read-only RTE RKANMOD dataset), if Application Statistics feature (MQI Monitoring), will be enabled".
- Change LPAR RTE profile parameter **KMQ\_X\_AGT\_STORAGE\_LIMIT\_EXTEND** default value from 23 to 24.  
**KMQ\_X\_AGT\_STORAGE\_LIMIT\_EXTEND** LPAR RTE profile parameter value populates the **LIMIT(%KMQ\_X\_AGT\_STORAGE\_LIMIT\_EXTEND%,X)** parameter in the Agent's

RKANPARU(KMQSYSIN) runtime member. New default is **LIMIT(24,X)** parameter (applicable to new RTEs created with PTF UA91953 applied).

- Remove the MQ3270 function in the RTE's RKANCMU(KDSSTR1) TEMS startup and in the RKANPARU (KDSSYSIN) TEMS loadlist startup runtime members. The following statements are now removed once OMEGAMON for Messaging - MQ V7.5.0 is configured or upgraded in the RTE where the TEMS is configured:
  - From RKANCMU(KDSSTR1) TEMS startup:
    - DIALOG %KDS\_TEMS\_VTAM\_APPL\_MQ% KMQDSTR
    - NTD KMQDPINI
  - From RKANPARU(KDSSYSIN) TEMS startup:
    - LOADLIST(KMQLLIST)

This removal also helps in reducing CPU overhead at the TEMS address space.

### **OMEGAMON for Messaging (WebSphere Message Broker, a.k.a. IBM Integration Bus, Monitoring) V7.3.0 and V7.5.0**

This is JOBGEN SMP/E installation and PARMGGEN application configuration support for a new version of IBM OMEGAMON for Messaging on z/OS - Integration Bus V7.5.0 (HKQI750 FMID). The following configuration enhancements are provided to support new features in this new version.

- Enhance configuration to auto-discover the following parameter values by the PARMGGEN KCIJPDLA discovery job:
  - Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_CEE\_SCEERUN** LE load library.
  - Auto-discover LPAR RTE user profile parameter **KQI\_XML\_XIMBNAME\_MON\_BRKR\_NAME** giving the name of the broker to be monitored.
  - Auto-discover LPAR RTE user profile parameter **KQI\_XML\_XIMBDIR1** giving the broker's ENVFILE z/OS UNIX path.
  - Auto-discover WCONFIG(KQI\$XML) RKANDATV(KQIXML) imbed to add XML entries for additional brokers to monitor.
  - Auto-discover monitored brokers and list each discovered broker's STDENV z/OS UNIX directory in the xKANSAMU(KQIDFINL) post-configuration tailored on-line README for KqiAgent.
- Modify the KQIXML product parameter default values as follows:
  - **KQI\_XML\_XIREQMDL\_REPLY\_QUE\_MDL** KQIXML's defaultReplyQueueModel default changed from SYSTEM.DEFAULT.MODEL.QUEUE to SYSTEM.BROKER.MODEL.QUEUE. This attribute specifies the name of the queue that will be used as a model for creation of the Agent reply queue for any queue manager to which the Agent connects. The PARMGGEN KCIJPUSP job uses this value to build the RTE's RKANDATV(KQIXML).
  - **KQI\_XML\_XISSRET\_SNAPSHOT\_SAMPLE** KQIXML's defaultRetainRecentSnapshotSamples default changed from 15 to 0 if you apply the HKQI730 FP2 PTF tracked in APAR OA51396 (and higher versions). Starting PARMGGEN 3Q17 IF PTF UA91953, PARMGGEN default will also support a null default setting (**KQI\_XML\_XISSRET\_SNAPSHOT\_SAMPLE ""**) resulting in KCIJPUSP/ KCIJPUS job to generate defaultRetainRecentSnapshotSamples="" value. This setting takes advantage of using the internal product code KQIXML default of "0" in the event that the HKQIvsv support is not applied. This attribute gives the minimum number of Snapshot Message Flow Accounting and Statistics samples that will be retained by the Agent for viewing in reports. This is a minimum, more may be retained at any given time. Note that this value should be set to 0 if you do not want the Agent to process Snapshot data from the broker at all. The PARMGGEN KCIJPUSP job uses this value to build the RTE's RKANDATV(KQIXML).

### **OMEGAMON for Messaging (WebSphere MQ Configuration) V7.3.0**

The following enhancements are added

- Enhance configuration to remove starting up the RKPDI DD EXEC for KMCPDICT persistent datastore processing in a z/OS Remote TEMS. To save TEMS and Agent STC CPU overhead, PARMGGEN logic checks are added to not start the KCFAUDIT history processing in the TEMS KPDPCTL, KPDPCTL2, and KPDDFIN ITM persistent datastore runtime members in the RTE's RKANPARU dataset.

- Enhance configuration to auto-discover the following parameter values by the PARMGEN KCIJPDLA discovery job:
  - Auto-discover \$GBL\$USR global user profile parameters for WebSphere MQ load libraries:
    - **GBL\_DSN\_WMQ\_SCSQANLE**
    - **GBL\_DSN\_WMQ\_SCSQAUTH**

#### **OMEGAMON for z/OS V5.3.0 and V5.5.0**

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON for z/OS V5.5.0 (HKM5550 FMID). The following configuration enhancements are provided to support new features in this new version.

- OMEGAMON CUA, Epilog and End-to-End features are no longer supported, so the relevant messages, PARMGEN product parameters, runtime members, jobs and commands are removed. Use the product-specific replacement features, which are implemented within the OMEGAMON enhanced 3270 user interface.

#### **OMEGAMON for Networks V5.3.0 and V5.5.0**

This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON for Networks on z/OS V5.5.0 (HKN3550 FMID). The following configuration enhancements are provided to support new features in this new version.

- Enhance configuration to auto-discover the following parameter values by the PARMGEN KCIJPDLA discovery job:
  - Auto-discover LPAR RTE user profile parameters for each TCP/IP stack monitored:
    - **KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN**
    - **KN3\_TCPXnn\_TCPIP\_PROFILES\_MBR**
- OMEGAMON CUA and End-to-End features are no longer supported, so the relevant messages, PARMGEN product parameters, runtime members, jobs and commands are removed. Use the product-specific replacement features, which are implemented within the OMEGAMON enhanced 3270 user interface.

#### **OMEGAMON for JVM V5.4.0**

Enhance configuration to auto-discover the following parameter values by the PARMGEN KCIJPDLA discovery job:

- Auto-discover the various JVM subsystem and application types running that are eligible for monitoring, and their respective z/OS UNIX directories to make it easier for customer to add the OMEGAMON for JVM monitoring Agent's (-javaagent) and IBM Java Health Center Agent's (-Xbootclasspath, -agentpath) respective enablement options. List each discovered z/OS UNIX directory or file location for these parameters in the xKANSAMU(KJJDFINL) post-configuration tailored on-line README for KJJ Agent:
  - JVMPROFILEDIR / USSHOME from CICS SIT for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in CICS JVMs.
  - STDENV for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in CICS Transaction Gateway (CTG) JVMs.
  - JVMOPMAS PROCLIB for IMS JMP for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in IMS JVMs.
  - STDENV for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in WebSphere Liberty z/OS Connect EE JVMs.
  - JVM\_OPTIONS in HBRMSTR file for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in ODM.

#### **OMEGAMON for DB2 PE/PM V5.3.0 and V5.4.0**

The following enhancements are added:

- Enhance configuration to auto-discover the following parameter values by the PARMGEN KCIJPDLA discovery job:
  - Auto-discover LPAR RTE user profile parameter for each DB2 subsystem to make it easier to concatenate these DB2-subsystem-specific load libraries in the various OMEGAMON for DB2 BIND and GRANT jobs per subsystem:

- **KD2\_DBnn\_DB2\_SSID**
- **KD2\_DBnn\_DB2\_VER**
- **KD2\_DBnn\_DB2\_LOADLIB**
- **KD2\_DBnn\_DB2\_RUNLIB**
- **KD2\_DBnn\_PWH\_LOADLIB**
- **KD2\_DBnn\_PWH\_EXITLIB**
- **KD2\_DBnn\_DB2\_SYSNAME**
- Auto-discover \$GBL\$USR global user profile parameters to make it easier to concatenate these DB2 subsystem load libraries in the STEPLIB DDNAME of the OMEGAMON for DB2 Classic started task (GBL\_DB2\_KD2\_CLASSIC\_STC) and other various OMEGAMON DB2 jobs:
  - **GBL\_DSN\_DB2\_LOADLIB\_V10**
  - **GBL\_DSN\_DB2\_RUNLIB\_V10**
  - **GBL\_DSN\_DB2\_LOADLIB\_V11**
  - **GBL\_DSN\_DB2\_RUNLIB\_V11**
  - **GBL\_DSN\_DB2\_LOADLIB\_V12**
  - **GBL\_DSN\_DB2\_RUNLIB\_V12**
  - **GBL\_DSN\_DB2\_SDSNLOAD**
  - **GBL\_DSN\_DB2\_DSNEEXIT**

- Generate helpful "\*" zDLA \$DLARPT job no DB2 auth" in the autodiscovered "**KD2\_DBnn\_DB2\_VER**" LPAR RTE profile parameter alerting customers when DB2 Authorizations have not been performed for the KCIJPDLA job or KCIJPD1 job. The KCIJPD1\* jobs have been updated to list the DB2 specific SQL GRANT commands to execute:  
If RACF is used to protect DB2 resources, then authority is required to issue DB2 DISPLAY commands and to access (READ) SYSIBM resources using dynamic SQL. In addition, for the DB2 version autodiscovery, the z/OS DLA extracts the DB2 version via the Instrumentation Facility Interface (IFI).

The IZDPDISC PROC and the auth. ID that runs the KCIJPDLA or KCIJPD1 job must have the appropriate authorization to issue the DB2 commands for each DB2 subsystem.

DB2 Authorities for each DB2 subsystem: Take SQL statements to authorize &user="IZDPDISC" as an example:

```
GRANT DISPLAY,MONITOR1,MONITOR2      TO "IZDPDISC";
GRANT SELECT ON SYSIBM.SYSDATABASE   TO "IZDPDISC";
GRANT SELECT ON SYSIBM.SYSTABLESPACE TO "IZDPDISC";
GRANT SELECT ON SYSIBM.SYSTABLES     TO "IZDPDISC";
GRANT SELECT ON SYSIBM.SYSINDEXES    TO "IZDPDISC";
GRANT SELECT ON SYSIBM.SYSCOLUMNS   TO "IZDPDISC";
GRANT EXECUTE ON PROCEDURE SYSPROC.DSNWZP TO "IZDPDISC";"
```

- Update xKANSAMU(KD5DFINL) post-configuration step "(Optional) Complete enablement of alternate XKAN\* Tivoli OMEGAMON (TOM) datasets for other integration products that deliver workspaces and other OMEGAMON enhanced 3270UI support elements" to document new version KQQ IBM DB2 Query Monitor for z/OS V3.3.

### OMEGAMON for Storage V5.3.0 and V5.4.0

Add xKANSAMU(KS3DFINL) post-configuration step "Step 1 - Refresh procedures to %GBL\_DSN\_SYS1\_PROCLIB%".

```
a) Refresh the TEMS started task (%KDS_TEMS_STC%) from RKANSAMU to %GBL_DSN_SYS1_PROCLIB%.
Notes:
- Certain products add special product-specific DDNAMEs to the %KDS_TEMS_STC% TEMS started task when the respective products are configured in the RTE. These products are as follows:
  o OMEGAMON for Storage (KS3) Agent adds SYSTSPRT and RKS3I*
```

```
DDNAMEs to the TEMS started task:  
Example:  
//SYSTSPRT DD SYSOUT=&SOUT  
//RKS3IRDR DD SYSOUT=(,INTRDR)  
//RKS3IDCO DD DUMMY"
```

## PARMGEN PTF UA91952 for APAR OA51755 (2Q17 Interim Feature)

PARMGEN PTF UA91952 for APAR OA51755 (2Q17 Interim Feature) introduces several enhancements, which are described in this section.

### PARMGEN configuration framework enhancements and updates

The configuration software includes the following enhancements:

- Provide \$JOB CARD-related processing updates to the KCIJRCD jobcard macro and the sample jobcard for the first-time PARMGEN users in support of z/OS 2.3 currency with users that have 8-character TSO user IDs. The TSO user ID will be used as the preferred jobname.
- Provide additional IVP advanced validation check during the VALIDATE step of PARMGEN \$PARSE\*-related jobs, or PARMGEN KCIJPVAL standalone validation job:
  - Detect a warning condition when the parameter **KDS\_TEMS\_HTTP\_PORT\_NUM** (representing the TEMS HTTP port number) is nulled out or blanked out. **KDS\_TEMS\_HTTP\_PORT\_NUM** is required when OMEGAMON for z/OS product is configured for RMF DDS communication.
  - Detect a warning condition when all the TEMS **KDS\_TEMS\_DRA\_FLAG** and Agent-specific **Kpp\_AGT\_DRA\_FLAG** OMEGAMON enhanced 3270UI's KOBAGENT Data Retrieval Agents (DRA) are all enabled in a given LPAR RTE. Provide a best practice tip that typically one or two OMEGAMON enhanced 3270UI (TOM) KOBAGENT DRAs are required to be started in the TEMS and Agent STCs. You can disable some of the DRA flags, but leave two DRAs enabled in an LPAR for backup purpose.

**Tip:** In a given Sysplex, 1 or 2 TOMs are required and having one or two DRAs in the STCs is typically sufficient. Avoid enabling the DRA in the z/OS Hub TEMS STC.

- For OMEGAMON for Storage Agent: Detect a warning condition when **KDF\_FM01\_MON\_STAT = 'MSR'** and **KDF\_FM01\_SAM\_CNT = '1'** values are specified. MSR=1 may cause performance issues when monitoring a large number of volumes or during heavy I/O traffic. MSR parameter values populate the xKANPARU(KDFDSCIN) runtime member.

### Product-specific enhancements

The following product-specific enhancements are provided in this release:

#### Tivoli Management Services: Engine infrastructure common to TEMS and Agents

The following features are added:

- (TEMS) Enable **KDS\_VALIDATE=YES** parameter for a TEMS configured in a new RTE. The LPAR RTE profile parameter **KDS\_TEMS\_SECURITY\_KDS\_VALIDATE** now has a default value of Y that writes out **KDS\_VALIDATE=YES** in the TEMS' %RTE\_HILEV%.%RTE\_NAME%.RKANPARU(KDSENV) runtime member. This parameter validates user ID access to the TEMS. Setting **KDS\_VALIDATE=NO** means that the application userid is authorized, or the TEMS does not have a security requirement.
- (TEMS) Provide flexibility to set the z/OS® UNIX® System Services permission for the %RTE\_USS\_RTEDIR%/RTE\_NAME%/kds/support/TEMS/KDSDPROF file that contains TEMS\_JAVA\_BINPATH parameter for SDA processing. KCIJPUSP job now provides support for using the RTE\_USS\_MKDIR\_MODE parameter for the chmod z/OS UNIX command. The default permission bits are set to 775. Providing this flexibility accommodates sites that have UMASK() overrides.

#### IBM Tivoli OMEGAMON XE for DB2 PE/PM V5.3.0 and later

The following enhancements are added:

- Enable the configuration of thread history in the OMEGAMON Enhanced 3270 User Interface (enhanced 3270UI). OMEGAMON for DB2 "Thread history" on the enhanced 3270UI is the same capability as what's known as 'near-term history' in the OMEGAMON for DB2 Classic interface. PI82090 delivers this same capability to the enhanced 3270UI for OMEGAMON for DB2. Both Near-

Term History (Classic) and Thread History (enhanced 3270) data is stored in VSAM. The following parameters represent the valid values for storage type:

- (New) THVSAM - Store the data to VSAM datasets for enhanced 3270UI Thread history support.
- (New) VSAMSEQTHVSAM - Store the data to VSAM datasets, sequential files for OMEGAMON DB2 Classic NTH support and VSAM datasets for enhanced 3270UI Thread history support.
- (New) SEQTHVSAM - Store the data to sequential files for OMEGAMON for DB2 Classic NTH support and VSAM datasets for enhanced 3270UI Thread history support.
- (New) VSAMTHVSAM - Store the data to VSAM datasets for OMEGAMON DB2 Classic NTH support and VSAM datasets for enhanced 3270UI Thread history support.

Summary of near-term-history related configuration enhancements (applicable to both TOM thread history and Classic history):

- New PARMGEN parameters enable configuration of thread history. The following new parameters allow you to specify how thread history will be collected:

```

THRDLG (PARMGEN parameter KD2_PFn_THRDHIS_LOG_NUM)
THRDSQL (PARMGEN parameter KD2_PFn_THRDHIS_DYN_SQL)
THRDSKAN (PARMGEN parameter KD2_PFn_THRDHIS_SCAN_SUMM)
THRDSORT (PARMGEN parameter KD2_PFn_THRDHIS_SORT_SUMM)
THRDSUSP (PARMGEN parameter KD2_PFn_THRDHIS_LOCK_SUSP)
THRDCONT (PARMGEN parameter KD2_PFn_THRDHIS_LOCK_CNTN)

```

- To support thread history in the OMEGAMON Enhanced 3270UI, new COPT&dbid parameter values that are THVSAM-related have been added to the WRITEOPTION parameter of the %RTE\_HILEV%.%RTE\_NAME%.RKD2PAR(COPT&dbid) runtime member. In addition, several new parameters, THRDSQL, THRDCONT, THRDSUSP, THRDSKAN, and THRDSORT, have been added for data collection.
- Two new COPT&dbid parameters, THRDLG and THRDDATASET, can be used to control VSAM datasets. The maximum number of VSAM datasets is 60 for Enhanced 3270UI thread history. The PARMGEN LPAR RTE profile parameters supporting the new COPT&dbid parameters are:

```

- THRDLG(%KD2_PFn_THRDHIS_LOG_NUM%)
- THRDDATASET(%KD2_OMPE_VSAM_DSHLQ%.%DB%.RKTH*)

```

- New VSAM dataset allocation logic: The general logic of allocating VSAM data sets for Near Term History has changed. Now, the selected types of datasets are allocated only if the thread history flag (%KD2\_PFn\_HIS\_START%) is set to Y. If this flag is set to N, no data sets are allocated and WRITEOPTION() is changed to NONE. For staging purposes, new standalone VSAM allocation jobs are provided in %RTE\_HILEV%.%RTE\_NAME%.RKD2SAM dataset as follows:

```

* Standalone Job Versions: Applicable if KD2_PFn_HIS_START = "Y":
- RKD2SAM(TCRV&dbid) for OMEGAMON enhanced 3270UI thread history
  o THRDDATASET(%KD2_OMPE_VSAM_DSHLQ%.%DB%.RKTH*) VSAM LDS
- RKD2SAM(HCRV&dbid) for Classic NTH:
  o H2DATASET(%KD2_PF_HIS_LOGn%) VSAM LDS

```

- New imbed increases allowable VSAM datasets: A new WCONFIG(KD2\$PCOP) imbed has been added to the H2DATASET() parameter in the COPT&dbid member. This allows you to enable more than seven Classic RKD2VSnn thread history VSAM data sets. The limit for the VSAM data sets number for thread history is now 1024. Only seven data sets can be set via PARMGEN. The others should be specified in WCONFIG(KD2\$PCOP) prior to submitting the WCONFIG(\$PARSE\*)-related "Create runtime members" and WKANSAMU(KCIJPW2R) "Copy runtime mbrs from WK\*->RK\* RW libs" jobs.
- New default sizes and units for memory: The default size and memory measurement units are changed from 10 Cylinders to 900 MegaBytes (MB) when allocating the thread history datasets. The value is controlled via two profile parameters:

```

- KD2_PFn_HIS_VSAM_SU
- KD2_PFn_HIS_VSAM_MB

```

Existing RTEs are not impacted; new defaults take effect for new RTEs. OMEGAMON for DB2-related allocation jobs such as RKD2SAM(ALLOCDS) composite OMEGAMON for DB2 NTH

allocation job, new RKD2SAM(TCRV&dbid) standalone RKTH\* enhanced 3270UI thread history dataset allocation job, existing RKD2SAM(HCRV&dbid) standalone RKD2VS\* Classic NTH VSAM dataset allocation job, are all modified to support the new MEGABYTES(%KD2\_PFn\_HIS\_VSAM\_MB%) parameter value.

- Add support for a new GRANT command for the SYSIBM.SYSCOLUMNS table in the %RTE\_HILEV%. %RTE\_NAME%.RKD2PAR(OMGR&dbid) member:

```
GRANT SELECT ON SYSIBM.SYSCOLUMNS to
%KD2_CLASSIC_DB2PM_PLANPKG_OWNER%;
```

- Change the default values of DB2RTCPU and DB2REMIO parameters to YES in the %RTE\_HILEV%. %RTE\_NAME%.RKD2PAR(OMPEOPTS) runtime member applicable to new runtime environments (RTEs) that configure OMEGAMON for DB2. Existing RTEs are not impacted.

#### IBM OMEGAMON for JVM on z/OS V5.4.0

Enhance configuration that supports IBM Java Health Center Agent packaging in the following jobs:

```
- KCIJPUSP "(Re)Create USS runtime members in RKANDATV" USS
  preparation job
- KCIJPUSS "Create USS directories/(Re)Copy USS files" job
```

Logic is added to KCIJARPX step in the KCIJPUSS job to accommodate bpxbatch requirements in later versions of z/OS for the "cd" and "pax" commands. In later z/OS versions, the commands get executed independently, so that the current working directory for the pax command is the user's home directory rather than the TKANJAR SMP/E install z/OS UNIX source directory. The enhancements being made to the PARMGEN KCIJPUSS job's KCIJARPX step is to accommodate all possible scenarios.

#### IBM OMEGAMON for CICS TG on z/OS V5.3.0:

Logic is added to KCIJARPX step in the KCIJPUSS job to accommodate bpxbatch requirements in later versions of z/OS for the "cd" and "pax" commands. In later z/OS versions, the commands get executed independently, so that the current working directory for the pax command is the user's home directory rather than the TKANJAR SMP/E install z/OS UNIX source directory. The enhancements being made to the PARMGEN KCIJPUSS job's KCIJARPX step is to accommodate all possible scenarios.

#### IBM OMEGAMON for IMS on z/OS V5.3.0:

Address the \$PARSE "Create runtime members and jobs" code to generate the KIPICPT dataset when KI5\_X\_ICT\_IMS\_CONNECT\_FLAG=Y is enabled.

### PARMGEN PTF UA83283 for APAR OA51503 (4Q16B Interim Feature)

PARMGEN PTF UA83283 for APAR OA51503 (4Q16B Interim Feature) introduces several enhancements that benefit **IBM OMEGAMON for JVM on z/OS**.

#### PARMGEN configuration framework enhancements and updates

The configuration software includes the following enhancements:

- Updated the Suites Code legend in the detailed discussion on system preparation topics such as **IBM Management Suites that JOBGEN/PARMGEN help deploy – Overview, Components in the Product Suites Matrix by Suite Code, Components in the Product Suites Matrix by JOBGEN Exploitation, and Components in the Product Suites Matrix by PARMGEN Exploitation**. You can find the topics on the **Welcome to the z/OS Installation and Configuration Tools for IBM Tivoli Management Services (TMS) dependent products (KCIPQPGW panel / KCIHPGW help panel)**. Additional JOBGEN and PARMGEN on-line help updates are added to support the new version of the following suites:
  - New version of IBM Service Management Suite for z/OS V1.4.1. Suite is refreshed to include new versions of the following products:
    - IBM OMEGAMON for DB2 Performance Experts on z/OS V5.4.0
    - IBM OMEGAMON for JVM on z/OS V5.4.0
    - IBM OMEGAMON for Storage on z/OS V5.4.0
  - New version of IBM OMEGAMON Performance Management Suite for z/OS V5.4.1. Suite is refreshed to include new versions of the following products:
    - IBM OMEGAMON for DB2 Performance Experts on z/OS V5.4.0

- IBM OMEGAMON for JVM on z/OS V5.4.0
- IBM OMEGAMON for Storage on z/OS V5.4.0
- New version of IBM Advanced Storage Management Suite for z/OS V2.2.1. Suite is refreshed to include new versions of the following products:
  - IBM OMEGAMON for Storage on z/OS V5.4.0
  - IBM Advanced Audit for DFSMSHsm Agent V2.6.0
  - IBM Advanced Reporting and Management for DFSMSHsm Agent V2.6.0
  - IBM Advanced Archive for DFSMSHsm V1.1.0
  - IBM Cloud Tape Connector for z/OS V1.1.0
- Updated the PARMGEN KCIJPALO job to accommodate PDSE V1 requirement for additional TMS: Engine datasets (UKANDATV/RKANDATV) when the RTE is enabled for PDSE support (RTE\_SMS\_PDSE\_FLAG=Y). PDSE V2 format requires DFP FMID HZD2vvv PTF UA81278/UA81279/UA81280 tracked in DFP APAR OA45431. For more information, see technote [ABENDOF4 RKANDATV RKNSLOCL KLVPA001 KLVPA007 KLVPA002 KLVPA003](https://www.ibm.com/support/docview.wss?uid=swg21984143) (<https://www.ibm.com/support/docview.wss?uid=swg21984143>).
- Enhanced the PARMGEN KCIJPUSS job to change the OMEGAMON for JVM-related KCIJARPX step handling the new **IBM Java Health Center Agent** hca\_31.pax and hca\_64.pax files packaged with **OMEGAMON for JVM V5.4.0** to dynamically switch to UID(0) if the TSO user ID submitting the KCIJPUSS job only has read access to the RACF class=facility / profile=bpj.superuser.
- Added new user symbols in the predefined RTE models:

```
- RTE_KCN_CACHE_KM5_RMF_DDS      "&KM5_NTH_DDS."
```

Added new user symbol in the %GBL\_USER\_JCL%(KCI\$RTEV) IBM default variables profile and %GBL\_USER\_JCL%(%RTE\_NAME%) LPAR RTE user variables profile:

```
- KM5_NTH_DDS                    ""
```

## Product-specific enhancements

The following product-specific enhancements are provided in this release:

### IBM OMEGAMON for JVM on z/OS V5.4.0

- Enhanced configuration that supports **IBM Java Health Center Agent** packaging in the following jobs:
  - KCIJPUSP z/OS® UNIX® System Services preparation job
  - KCIJPUSS job

Logic is added to generate the new KCIJARPX step in the KCIJPUSS job for **OMEGAMON for JVM V5.4.0** and higher versions only. The packaging of the hca\_31.pax and hca\_64.pax Health Center Agent binaries are only made available starting in **OMEGAMON for JVM V5.4.0**. The KCIJARPX-related step that expands the pax files is generated commented out in an **OMEGAMON for JVM V5.3.0** configuration. The bpxbatch pax steps that expand the hca\_31.pax and hca\_64.pax Health Center Agent binaries are also enhanced to switch dynamically to superuser (su) if the user ID submitting the KCIJPUSS job does not have a z/OS UNIX UID of 0.

- Enhanced OMEGAMON for JVM Agent post-configuration:
  - Add the 31-bit JVM requirement for IMS JVMs if the IMS version is V13 and earlier, or if the IMS version is V14 and higher, but does not have IMS APAR PI64142 maintenance applied. The following text is added to the **PARMGEN KJJDFINL Complete the configuration on-line README**:

```
"Important:
IMS supports 64-bit Java starting with IMS V14 with PI64142
maintenance. See "New function APAR that provides JVM 64 bit
support" currency technote for more information (URL:
http://www.ibm.com/support/docview.wss?crawler=1&uid=isg1PI64142
)."
```

- Add additional considerations in the methods to configure JVMs in the different subsystems based on the copy of the Health Center Agent being used and what version of OMEGAMON for JVM Agent (KJJ) is running (FMID HKJJ530 GA-1 or the latest GA version FMID HKJJ540).
- Add additional considerations in the **Refresh jar files after SMP/E maintenance and recycle the components** step:

```

*** Important recycle considerations ***
In certain cases, you would also be required to recycle the following
components:
- OMEGAMON for JVM Agent (by default, IBMJJ Agent started task)
* Your KJJ_AGT_STC = %KJJ_AGT_STC%
OMEGAMON for JVM Collector (by default, IBMJT Collector started task)
* Your KJJ_COLLECTOR_STC = %KJJ_COLLECTOR_STC%

- each monitored JVM you may have enabled for detailed monitoring in the
PARMGEN KJJDFINL post-configuration step 1 above.
Refer to the HKJJvvv PTF maintenance HOLDDATA information for required
enablement instructions.

```

## PARMGEN PTF UA82508 for APAR OA50912 (4Q16 Interim Feature)

PARMGEN PTF UA82508 for APAR OA50912 (4Q16 Interim Feature) introduces several enhancements that benefit all products that use the configuration software.

### PARMGEN configuration framework enhancements and updates

The configuration software includes the following enhancements:

- Enhanced **Customize PARMGEN configuration profiles** processing by using the autodiscovery functions of z/OS Discovery Library Adapter (DLA) (FMID HIZD310). The PARMGEN z/OS DLA integration enhancement enables self-discovery of product parameter values during the PARMGEN configuration phase of z Management Suites deployment, thus increasing customer TTV (Time-to-Value) and ease of use. You can customize the LPAR RTE user profile and the \$GBL\$USR global user profile in the RTE's WCONFIG dataset via one of two methods:
  - For the parameters that do not have default values or the IBM-supplied values that need further customization at your site, but are required by the products during configuration phase for PARMGEN to create the runtime members read by the respective product started tasks at startup, supply those configuration settings during the **Customize PARMGEN configuration profiles** step by selecting this option on the **PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU KCIQPGB** panel. Then customize those required parameters, especially for those product parameters that are in a table row format that contain subsystems, etc. For ease-of-use, you can instantiate each table parameter row via the F16=CLNESECT (Clone Section) PF Key macro.
  - (New in PARMGEN 4Q16 IF PTF UA82508) If you have the z/OS Discovery Library Adapter (DLA) FMID (HKIZD310) installed in an LPAR that the PARMGEN configuration jobs have access to, you can use the KCIJPDLA PARMGEN z/OS Discovery Library Adapter (zDLA) autodiscovery job for the following functions:
    - (KCIJPD1 job function) Create a zDLA IDML dataset and drive FMID HZID310 zDLA code to auto-discover active running subsystems in the monitored LPAR.
    - (KCIJPD2 job function) Generate a handy PARMGEN \$DLARPT DLA RTE report in the RTE's WCONFIG dataset from the zDLA IDML extracted data.
    - (KCIJPD3 job function) Refresh the LPAR RTE user profile, the \$GBL\$USR global user profile, certain WCONFIG user imbeds (KMQ\$CUSR, KQI\$XML), and applicable post-configuration READMEs (KJJDFINL, KQIDFINL) with PARMGEN \$DLARPT DLA extracted data.

**Note:** This key integration is especially useful in large environments with multiple subsystems. Customers don't have to manually specify parameter values that are related to monitored subsystems. The PARMGEN enhancement allows you to submit a new KCIJPDLA composite job, or the standalone, function-specific KCIJPD1, KCIJPD2, and KCIJPD3 equivalent jobs.

The goal is to auto-discover subsystems monitored by the PARMGEN z/OS DLA integration so the PARMGEN configuration tool is able to automatically pre-populate the LPAR RTE user profiles with actual customer system data for the remaining required product parameters customized in the user profiles (PARMGEN supplies around 90% IBM configuration defaults out-of-the-box). For more information, refer to **Customize configuration profiles via KCIJPDLA z/OS DLA job** discussion in the PARMGEN on-line helps associated with these three panels:

- PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU
- CUSTOMIZE PARMGEN CONFIGURATION USER PROFILES
- UTILITIES

For more information about how to run the KCIJPDn jobs, see [“Preparing the configuration profiles by running the KCIJPDn jobs”](#) on page 440 and [“PARMGEN z/OS DLA utility jobs and commands”](#) on page 442.

- Enhanced the access to the what's new information of quarterly IFs by adding a new option **I** for **What's New in PARMGEN** in the first PARMGEN welcome screen. A **Revised** flag is displayed next to this option if a new PTF is installed but the what's new topic is not reviewed.
- Enhanced JOBGEN and PARMGEN integration for **GBL\_USS\_TKANJAR\_PATH** and **GBL\_JOBGEN\_WORKFILE JOBGEN** repository autodiscovery. If you used the Install Job Generator (**JOBGEN**) tool to perform the SMP/E work for these products and you specified the JOBGEN output library (workfile repository) during the PARMGEN Set up/Refresh PARMGEN work environment KCIJPCFG step, then PARMGEN extracted the z/OS® UNIX® System Services install root directory value of the **TKANJAR DDDEF** you customized on the "Job Generator - USS Install Path" (KCIJG04 panel). The "USS Install root directory" value is appended to the TKANJAR z/OS UNIX path name and this composite value becomes the PARMGEN-supplied default for this **GBL\_USS\_TKANJAR\_PATH** parameter.
- Provided additional IVP advanced validation checks during the **Create runtime members and jobs VALIDATE** step for \$PARSE\*-related jobs, or PARMGEN **KCIJPVAL** standalone validation job:
  - Detect an error condition when OMEGAMON XE for DB2 PE/PM DB2 subsystem specific LPAR RTE profile parameter **KD2\_DBnn\_DB2\_VER** is missing a required value. As part of the PARMGEN z/OS DLA integration feature, if the new PARMGEN KCIJPDLA job is not authorized to auto-discover the DB2 subsystem version, then the new PARMGEN WCONFIG(\$DLARPT) DLA report will not be able to extract the VERSION row for this DB2\_&dbid subsystem rows. PARMGEN's validation code in the VALIDATE step of \$PARSE jobs as well as in the PARMGEN KCIJPVAL standalone profile validation step, will provide the protective code to alert users that KD2\_DBnn\_DB2\_VER was not automatically populated with discovered data by the new PARMGEN **KCIJPDLA** composite job, or the new PARMGEN **KCIJPD2 Generate \$DLARPT DLA report from IDML dataset** job.
  - Detect an error condition when OMEGAMON XE for DB2 and OMEGAMON XE for IMS LPAR RTE profile table row parameters (**KD2\_DB\***, **KD2\_PF\***, **KI2\_I1\*** product table &Kpp-table row indicators) for &Kpp-table\_ROW numbers are out of sequence. These row parameters are used in instantiating subsystem-specific runtime members that are unique to these products. As part of the PARMGEN z/OS DLA integration feature, the new PARMGEN KCIJPDLA job will ensure that each instantiated set of parameters for applicable table rows is incremented with unique values. If customer is manually customizing the table rows instead of using the PARMGEN KCIJPDLA job, then the validation code in the VALIDATE step of \$PARSE jobs as well as in the PARMGEN KCIJPVAL standalone profile validation step, will provide the protective code to alert users that the values must be unique.
  - Detect an error condition when OMEGAMON XE for DB2 profile parameter **KD2\_DBnn\_DB2\_PORT\_NUM** port number is not unique per DB2 subsystem and one of the functions that require this parameter is enabled. These product functions are as follows:
    - **KD2\_OMPE\_PE\_SUPPORT** - Enable Performance Expert (PE) Client support
    - **KD2\_OMPE\_E2E\_MON\_SPRT** - Enable end-to-end SQL monitoring support
  - Detect an error condition when OMEGAMON XE for IMS LPAR RTE profile table parameters (**KI2\_I1\***) for **CLASSIC\_STC**, **CLASSIC\_MPREFIX**, **CLASSIC\_IMSID**, **CLASSIC\_VTAM\_NODE**, and **CLASSIC\_VTAM\_LOGON\_APPL** parameter values are not unique to each IMS subsystem row. As part of the PARMGEN z/OS DLA integration feature, the new PARMGEN KCIJPDLA job will ensure that each instantiated **KI2\_I1\*** set of parameters for each IMS subsystem discovered, is incremented with unique values. If customer is manually customizing the **KI2\_I1\*** table rows instead of using the PARMGEN KCIJPDLA job, then the validation code in the VALIDATE step of \$PARSE jobs as well as in

the PARMGEN KCIJPVAL standalone profile validation step, will provide the protective code to alert users that the values must be unique.

- Detect an error condition when required parameters are not supplied for OMEGAMON XE for Messaging: WebSphere Message Broker Monitoring Agent (KqiAgent). These parameter value errors are as follows:
    - If **KQI\_XML\_XIMBNAME\_MON\_BRKR\_NAME** giving the name of the broker to be monitored is missing
    - If **KQI\_XML\_XIMBDIR1** giving the broker's ENVFILE z/OS UNIX path is missing
    - If **KQI\_HFS\_HFSROOT\_DIR1** giving the KqiAgent z/OS UNIX path for bin files and logs is missing
- New PARMGEN z/OS DLA KCIJPDLA job can auto-discover these values in the LPAR where WebSphere Message Brokers or IBM Integration Bus brokers are deployed for setting KqiAgent parameter values.
- Detect an error condition when **GBL\_USS\_TKANJAR\_PATH** TKANJAR install z/OS® UNIX® System Services directory is not specified. In WCONFIG(\$GBL\$USR), specify the TKANJAR DDEF install directory for KJJ (OMEGAMON for JVM) and KGW (OMEGAMON for CICS TG) Agent jars and Health Center Agent pax files. PARMGEN KCIJPUSP and KCIJPUSS jobs require the z/OS UNIX directory to expand the **hca\_\* pax** files. **GBL\_USS\_TKANJAR\_PATH** is required when OMEGAMON for JVM (KJJ) Agent is configured, or when OMEGAMON for CICS TG (KGW) Agent is configured in a non-SMP sharing RTE to copy the SMP/E TKANJAR files from **GBL\_USS\_TKANJAR\_PATH** to the runtime z/OS versions.
- Enhanced panel and on-line help panel updates for deployment.
    - Enhanced the main PARMGEN **Welcome to the z/OS Installation and Configuration Tools for z Systems Management Suites** by streamlining the configuration workflow option to display a **Configuration Workflow (Post-installation): Configure z/OS products with Parameter Generator Workflow (PARMGEN)** selection only, rather than providing 2 modes (recommended Quick Configuration mode and the alternate Standard Configuration mode). The welcome menu now only features the recommended Quick Configuration for simplicity. Press F1=Help for more information about the streamlining of the panel options.
    - Added F1=HELP profile parameter on-line help text support for additional parameters in these prefixes so detailed helps are provided when a user places the cursor on the parameter name and presses the PF Key F1=HELP while in edit mode of the LPAR RTE user profile or \$GBL\$USR global user profile:
      - GBL\_\* global profile parameters in WCONFIG(\$GBL\*)
      - RTE\_\* common LPAR profile parameters in WCONFIG(%RTE\_NAME%)
      - KDS\_X\_\* TEMS profile parameters in WCONFIG(%RTE\_NAME%)
      - Kpp\_X\_\* common Agent profile parameters in WCONFIG(%RTE\_NAME%)
    - Updated existing help topics focusing on additional system preparation requirements for the following products:
      - Products that have z/OS UNIX SMP/E and configuration deployment requirements when SDA is enabled.
      - Products that update their TKANJAR DD jar files.
    - Updated panels and associated help panels to add support for Type U or UTIL to access utility menu. Shortcut commands to make it easier to access the Utilities panels where the new PARMGEN z/OS DLA integration jobs are available.
  - Enhanced **Welcome to the z/OS Installation and Configuration Tools for IBM Tivoli Management Services (TMS) dependent products (KCIPQPGW panel / KCIHPGW help panel)** by further enhancing the recently added detailed discussion on system preparation topics such as **IBM Management Suites that JOBGEN/PARMGEN help deploy – Overview, Components in the Product Suites Matrix by Suite Code, Components in the Product Suites Matrix by JOBGEN Exploitation, and Components in the Product Suites Matrix by PARMGEN Exploitation**. You will know the following information before the deployment.
    - How to deploy the SMP/E and configuration requirements of the various components included in the suites.
    - Where to go next after the SMP/E and PARMGEN configuration phase of product deployment (especially components that use their own installation and configuration processes outside JOBGEN/PARMGEN controls).

- Which components need further post-configuration work.

With this information you can have a smoother deployment of the product suites. A well-planned ordering, system preparation, installation, configuration, and post-configuration of the products mean a better time-to-value using the products quicker.

- Provide a new **KCIS\$APF** WCONFIG common user imbed to all product started tasks. KCIS\$APF is a sample composite APF authorized list of datasets:
  - USER SECTION: VARY NODE SECTION
  - USER SECTION: SETPROG APF SECTION
  - USER SECTION: SET SPECIAL VARIABLES SECTION
- Provided update to product configuration assembly/link jobs that need //SYSTEM DD SYSOUT=\* statement to provide a way to define a dataset for binder messages that supplements the SYSPRINT DD.

## Product-specific enhancements

The following product-specific enhancements are provided in this release:

### Tivoli Management Services: Engine infrastructure common to TEMS and Agents

(Common to all z/OS TEMS and z/OS Agents) Enhanced configuration to auto-discover the following parameter values by the PARMGEN z/OS DLA integration:

- Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_CSF\_SCSFMODO** for ICSF load library required for a number of ITM features if enabled:
  - The ITM Password Encryption (KAES256 key) across the ITM enterprise
  - The SOAP server for a TEMS
  - OMEGAMON on z/OS zAware exploitation
  - Take Action commands

It is ideal to customize this library when you create an RTE even if the ITM features that require the ICSF load library are not yet enabled. Auto-discovering this load library value ensures that PARMGEN sets up the STEPLIB DD of the product started tasks to concatenate this dataset to avoid recycling the TEMS and Agent started tasks later.

- Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA** for SYSTCPD DD required for a number of ITM features if enabled (if the LPAR contains more than one TCP/IP stack).
- Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_TCP\_PROFILES** dataset for the TCP/IP requirements of various products.
- Provided configuration support for **Autonomous Agent** parameters for **SNMP** support. Placeholder **Central Configuration Server (CCS)** parameters such as **IRA\_CONFIG\_SERVER\_\*** were also provided in the PARMGEN **KAG\$PENV** common Agent user imbed to the RTE's xKANPARU(KppENV) Agent ENV file. For more information, review the topic **How to: Configure an autonomous agent to send SNMP events.**
- Provided a new handy **KDSSQL1** Sample SPUFIL Delete SQL statement to remove Self Describing Agent (SDA) corrupted product entries in the **04SRV.TAPPLPROPS SDA** table (TEMS **RKDSAPPL VSAM** dataset). This member can be used to run the **SQL Processing Using File Input (SPUFI)** to issue an MVS Modify command to the **KDS\_TEMS\_STC** TEMS started task to drive the SQL. On distributed platforms, performing this SPUFIL equates to the **tacmd deleteappinstallrecs** function. Having a handy **KDSSQL1** member supplied by PARMGEN provides an alternative to perform the function on z/OS if the distributed TEPS server is not available or is not yet set up.

### IBM OMEGAMON for JVM on z/OS V5.4.0

- This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of IBM OMEGAMON for JVM on z/OS V5.4.0 Agent (HKJJ540 FMID).
- The following configuration enhancements are provided to support new features in this new version. For more information, refer to **What's new in IBM OMEGAMON for JVM on z/OS V5.4.0.**
  - Enhanced installation with support for **JOBGEN TKCIINST(KCIDJG00)** table updates to support SMP/E installation requirements for **new HKJJ540 OMEGAMON for JVM FMID** (if JOBGEN tool will be used to front-end SMP/E).

- Enhanced JOBGEN and PARMGEN integration for **GBL\_USS\_TKANJAR\_PATH** and **GBL\_JOBGEN\_WORKFILE** JOBGEN repository autodiscovery. If you used the Install Job Generator (JOBGEN) tool to perform the SMP/E work for these products and you specified the JOBGEN output library (workfile repository) during the PARMGEN "Setup/ Refresh PARMGEN work environment" KCIJPCFG step, then PARMGEN extracted the **TKANJAR** DDDEF's "USS Install root directory" value you customized on the "Job Generator - USS Install Path" (KCIJG04 panel). The "USS Install root directory" value is appended to the TKANJAR z/OS UNIX path name and this composite value becomes the PARMGEN-supplied default for this GBL\_USS\_TKANJAR\_PATH parameter
- Enhanced configuration that supports **IBM Java Health Center Agent** packaging. IBM Java Health Center Agent is packaged with OMEGAMON for JVM. The following PARMGEN jobs were modified to generate tailored **bpxbatch** commands depending on RTE type:
  - PARMGEN **KCIJPUSP** creates or re-creates z/OS® UNIX® System Services runtime members in RKANDATV z/OS UNIX preparation job.
  - PARMGEN **KCIJPUSS** creates z/OS UNIX directories, and copies or recopies z/OS UNIX files job.
- Added SMP/E target **TKANSAM KJJUSSJB sample job** that expands the shipped Java Health Center Agent **hca\_\* pax** files starting in **IBM OMEGAMON for JVM on z/OS V5.4.0 Agent (HKJJ540 FMID)**.  
For customers who have an SMP/E-sharing RTE deployment but not yet upgraded the RTE to OMEGAMON for JVM V5.4.0 to refresh the KCIJPUSS tailored job, the handy sample KJJUSSJB that is provided in the SMP/E TKANSAM target dataset allows customers to expand the required Health Center Agent **hca\_\* pax** files into the SMP/E **TKANJAR** install z/OS UNIX directory which the OMEGAMON for JVM jar and binary files are executed from.
- Enhanced configuration that adds TEMS application support on z/OS via **PARMGEN KCIJPLOD job's new REPROKJJ** step and a new **KJJRPOJB REPROKJJ standalone job**, which are alternatives to distributed means. TEMS application support seeding is **required** if the Self-Describing Agent (SDA) feature is not enabled at the TEMS.
- Enhanced post-configuration with support for:
  - adding new JVMs monitored by the OMEGAMON for JVM monitoring Agent – tailored post-configuration instructions for the new subsystems or application type such as **IBM Operational Decision Manager (ODM)**, **IBM WebSphere Liberty z/OS Connect** application, and other types being monitored are updated in the modified **PARMGEN KJJDFINL post-configuration on-line README**. For IBM z/OS Connect Enterprise Edition (EE), this application provides a model to enable new cloud-based workloads to securely access z/OS based assets through RESTful API calls. OMEGAMON for JVM supports organizations deploying z/OS Connect EE by providing key metrics that help identify the performance of their available services.
  - auto-discovering the CICS JVM, CICS TG JVM, and IMS Java Dependent Regions and z/OS Connect Enterprise Edition (EE) JVM various locations (STDENV file or applicable z/OS UNIX directories) where the OMEGAMON for JVM and IBM Health Center Agent enablement options need to be added to enable detailed JVM monitoring of various JVM subsystems and application types.
- Enhanced configuration to auto-discover the following parameter values by the **PARMGEN z/OS DLA integration**.  
Auto-discover the various JVM subsystem and application types running that are eligible for monitoring, and their respective z/OS UNIX directories to make it easier for customer to add the **OMEGAMON for JVM monitoring Agent's (-javaagent)** and **IBM Java Health Center Agent's (-Xbootclasspath, -agentpath)** respective enablement options. List each discovered z/OS UNIX directory or file location for these parameters in the KJJDFINL "Post-configuration" tailored on-line **README** for KJJ Agent:
  - **JVMPROFILEDIR/USSHOME** from CICS SIT for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in **CICS JVMs**.
  - **STDENV** for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in **CICS Transaction Gateway (CTG) JVMs**.
  - **JVMOPSMAS PROCLIB** for IMS JMP for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in **IMS JVMs**.

- **STDENV** for enabling the Health Center Agent and OMEGAMON for JVM Agent enablement options in **WebSphere Liberty z/OS Connect EE JVMs**.

### OMEGAMON Enhanced 3270 User Interface V7.3.0

Enhanced configuration support for preferred RMF Server by supporting a new **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** LPAR RTE profile parameter. Its value can contain your preferred RMF DDS network address (IP address or IP hostname format) and RMF DDS port number that you want the OMEGAMON Subsystem RMF cache to retrieve the data from, rather than the autodiscovered RMF DDS. **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** Enablement Support: Refer to **OMEGAMON on z/OS HKM5530 PTF UA82561** (or later maintenance) for the **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** enablement support if you exploit this feature.

### OMEGAMON Subsystem V7.3.0

- Enhanced configuration support for preferred RMF Server by supporting a new **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** LPAR RTE profile parameter. Its value can contain your preferred RMF DDS network address (IP address or IP hostname format) and RMF DDS port number that you want the OMEGAMON Subsystem RMF cache to retrieve the data from, rather than the auto-discovered RMF DDS.
- **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** Enablement Support: Refer to **OMEGAMON on z/OS HKM5530 PTF UA82561** (or later maintenance) for the **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** enablement support if you exploit this feature.

### OMEGAMON XE on z/OS V5.3.0

- Enhanced configuration support for preferred RMF Server by supporting a new **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** LPAR RTE profile parameter. Its value can contain your preferred RMF DDS network address (IP address or IP hostname format) and RMF DDS port number that you want the OMEGAMON Subsystem RMF cache to retrieve the data from, rather than the auto-discovered RMF DDS.
- **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** Enablement Support: Refer to **OMEGAMON on z/OS HKM5530 PTF UA82561** (or later maintenance) for the **RTE\_KCN\_CACHE\_KM5\_RMF\_DDS** enablement support if you exploit this feature. Corresponding **KM5\_RMF\_DDS\_COLLECTION** LPAR RTE profile parameter also is updated to accommodate the changes to the TEMS RTE's **xKANPARU(KDSENV)** parameter called **KDS\_KM5\_DDS=%RTE\_KCN\_CACHE\_KM5\_RMF\_DDS%,%KM5\_RMF\_DDS\_COLLECTION%**.

### OMEGAMON XE for DB2 PE/PM V5.4.0

- This is **JOBGEN SMP/E** installation and **PARMGEN** application configuration support for a new version of **IBM OMEGAMON XE for DB2 Performance Expert (PE) / Performance Monitor (PM) V5.4.0 Agent (HKDB540 FMID)**.
- The following configuration enhancements are provided in support of new features delivered in this new version. For more information, see [What's new in OMEGAMON for Db2 Performance Expert](#).
  - Enhanced installation with support for **JOBGEN TKCIINST(KCIDJG00)** table updates to support SMP/E installation requirements for new **HKDB540 OMEGAMON for DB2 PE/PM FMID** (if **JOBGEN** tool will be used to front-end SMP/E).
  - Added configuration support for Near-term history (NTH) **KD2\_PFn\_HIS\_ACCTG\_CLAS** **PARMGEN** LPAR RTE profile parameter **Accounting Class 11** for monitoring trace data.
  - Added validation check enforcing that the OMEGAMON DB2 port number **KD2\_DBnn\_DB2\_PORT\_NUM** is made unique per DB2 subsystem if PE Client function or E2E SQL monitoring function is enabled. This value must be unique not just per monitored DB2 subsystem, but also from the DB2 port number itself.
  - Added logic checks to only generate certain jobs for DB EXPLAIN based on the OMEGAMON for DB2 version that supports that DB2 version:  
CURRENCY NOTES:
    - DB2 V9.1 is applicable to OMEGAMON for DB2 PE/PM V5.2.0- ("- denotes "and lower versions included").
    - DB2 V10 is applicable to OMEGAMON for DB2 PE/PM V5.1.0+ ("+" denotes "and higher versions included").
    - DB2 V11 is applicable to OMEGAMON for DB2 PE/PM V5.2.0+.
    - DB2 V12 is applicable to OMEGAMON for DB2 PE/PM V5.4.0+.

Profile Parameter Notes:

- KD2\_DBnn\_DB2\_VER = 91 is valid for OMEGAMON for DB2 V5.2.0-.
- KD2\_DBnn\_DB2\_VER = 10 is valid for OMEGAMON for DB2 V5.1.0+.
- KD2\_DBnn\_DB2\_VER = 11 is valid for OMEGAMON for DB2 V5.2.0+.
- KD2\_DBnn\_DB2\_VER = 12 is valid for OMEGAMON for DB2 V5.4.0+.
- Enhanced configuration with DB2 V12 support, including key DB2 features like LOB compression, dynamic plan stability, lifted partition limits, and so on:
  - New **GBL\_DSN\_DB2\_LOADLIB\_V12** and **GBL\_DSN\_DB2\_RUNLIB\_V12 \$GBL\$\*** global profile parameters for runtime members and jobs that support DB2 V12 such as the **GBL\_DB2\_KD2\_CLASSIC\_STC** Classic started task's STEPLIB DDNAME.
  - New **KO2OM540** DB2 package and FPEV\* DBRMs in support of V540 for DB2-subsystem-specific **OMBD&dbid Bind OMEGAMON Server Packages (KO2OMvvv)** job, **OMBP&dbid Bind OMEGAMON Server DB2 Plan (KO2PLAN)** job, **OMGR&dbid Grant DB2 privileges to OMEGAMON Collector Plan/Package OWNER()**
  - New EXC4&dbid DB2 EXPLAIN (New Function Mode) and EXC5&dbid DB2 EXPLAIN (Compatibility Mode) jobs for DB2 V12.
  - Modified DBRM names **DGOY\*** in **EXBD&dbid** Explain bind jobs and DBRM names **BPOM\***, **DGOV\***, **FPEV\*** in **OMBD&dbid** bind jobs for DB2 V12.
- Enhanced configuration to auto-discover the following parameter values by the PARMGEN z/OS DLA integration:
  - Auto-discover LPAR RTE user profile parameter for each DB2 subsystem to make it easier to concatenate these DB2-subsystem-specific load libraries in the various OMEGAMON DB2 BIND and GRANT jobs per subsystem:
    - **KD2\_DBnn\_DB2\_SSID**
    - **KD2\_DBnn\_DB2\_VER**
    - **KD2\_DBnn\_DB2\_LOADLIB**
    - **KD2\_DBnn\_DB2\_RUNLIB**
    - **KD2\_DBnn\_PWH\_LOADLIB**
    - **KD2\_DBnn\_PWH\_EXITLIB**
    - **KD2\_DBnn\_DB2\_SYSNAME**
  - Auto-discover \$GBL\$USR global user profile parameters to make it easier to concatenate these DB2 subsystem load libraries in the STEPLIB DDNAME of the OMEGAMON DB2 Classic started task (**GBL\_DB2\_KD2\_CLASSIC\_STC**) and other various OMEGAMON DB2 jobs:
    - **GBL\_DSN\_DB2\_LOADLIB\_V10**
    - **GBL\_DSN\_DB2\_RUNLIB\_V10**
    - **GBL\_DSN\_DB2\_LOADLIB\_V11**
    - **GBL\_DSN\_DB2\_RUNLIB\_V11**
    - **GBL\_DSN\_DB2\_LOADLIB\_V12**
    - **GBL\_DSN\_DB2\_RUNLIB\_V12**
    - **GBL\_DSN\_DB2\_SDSNLOAD**
    - **GBL\_DSN\_DB2\_DSNEEXIT**
- **Removal of the Common User Access (CUA) interface** to reduce complexity and cost of ownership in the monitoring environment. SMEs experience improved ease of use since all key workspaces are now represented in the enhanced 3270 user interface (enhanced 3270UI) for additional problem solving capability. CUA is eliminated in Version 5.4 since functions which could be accomplished with CUA in previous releases, can now be accomplished with enhanced 3270UI.

### OMEGAMON for Storage V5.4.0

- This is JOBGEN SMP/E installation and PARMGEN application configuration support for a new version of **OMEGAMON for Storage on z/OS V5.4.0 Agent (HKS3540 FMID)**.
- The following configuration enhancements are provided in support of new features delivered in this new version such as:
  - A new history store providing improved performance and resource consumption for near term historical data.
  - Real and historical monitoring of FICON Directors performance bottlenecks.
  - Improvements to the E3270UI allow storage administrator access to critical reports and controls.

For more information, see [New in OMEGAMON for Storage on z/OS 5.4.0](#)

- Enhanced installation with support for **JOBGEN TKCIINST(KCIDJG00)** table updates to support SMP/E installation requirements for new **HKS3540 OMEGAMON for Storage FMID** (if JOBGEN tool will be used to front-end SMP/E).
- **Removal of the Common User Access (CUA) interface** to reduce complexity and cost of ownership in the monitoring environment. SMEs experience improved ease of use since all key workspaces are now represented in the enhanced 3270 user interface (enhanced 3270UI) for additional problem solving capability. CUA is eliminated in Version 5.4 since functions which could be accomplished with CUA in previous releases, can now be accomplished with enhanced 3270UI.

### OMEGAMON XE for CICS on z/OS V5.3.0

- Auto-discover LPAR RTE user profile parameter for each CICS region to make it easier to setup the On-line Data Viewer (ONDV) VSAM LDS RKC2HIST datasets for application history:  
**KC2\_HSnn\_CLASSIC\_CICS\_REGION.**
- Provided a tailored placeholder **RKCPXMxx DD DUMMY** statement in the RTE's WCONFIG(KC5\$SST3) OMEGAMON for CICS Agent started task user imbed (%KC5\_AGT\_STC% IBMC5 by default) to make it easier to enable the same XMIT DDNAME used in the OMEGAMON for CICS Classic 3270 STC.

```
//*****  
//* Multiple RKCPXMnn XMIT linkage parameter  
//* Note: Review the PARMGEN "Perform post configuration steps"  
//*       for KC5 component to review any set-up needed for  
//*       RKCPXMnn DD in the %KC5_AGT_STC% Agent started task.  
//*****  
//*RKCPXM%KC2_CC_CLASSIC_XMIT% DD DUMMY  
//* ----- END - USER SECTION: OVERRIDE -----.
```

### OMEGAMON XE for CICS TG on z/OS V5.3.0

- Enhanced configuration to autodiscover the following parameter values by the PARMGEN z/OS DLA integration:
  - Auto-discover LPAR RTE user profile parameter for each CICS TG Gateway Daemon STC name or the WebSphere region: **KGW\_SAnn\_CTG\_DAEMON\_STC.**
  - Auto-discover \$GBL\$USR global user profile parameters **GBL\_DSN\_CICS\_CTG\_DLL** CICS TG Dynamic Link Library
- Modified the placeholder **KGW\_SAnn\_CTG\_DAEMON\_HOST** Gateway Daemon STC name or the WebSphere region LPAR RTE profile parameter from null value (blank) to the better default of **LOCALHOST** so the running product defaults it to the local IP host name or IP address.
- Provided a tailored **RKGWXMxx DD DUMMY** statement in the OMEGAMON for CICS TG Agent started task (%KGW\_AGT\_STC% IBMGW by default) to make it easier to enable the XMIT DDNAME if the XMIT value is other than the default "00" value.

```
//*****  
//* Multiple RKGWXMnn XMIT linkage parameter  
//*****  
//%CMTGWS21%RKGWXM%KGW_AGT_XMIT% DD DUMMY
```

The KGW LPAR RTE profile parameter KGW\_AGT\_XMIT is also modified accordingly in the LPAR RTE profiles:

```

** (Optional) CICS TG Agent XMIT number:
** If the KGW_AGT_XMIT is other than the default "00" Agent XMIT
** number, the RKGWXM%KGW_AGT_XMIT% DD DUMMY is generated in the
** KGW Agent started task as enabled.
**
** The value is also used in the "GW START ID=XMI, XM=%KGW_AGT_XMIT%"
** KGW Agent startup parameter in the xKANCMDU(KGWAGST) startup
** member.

```

### OMEGAMON XE for IMS on z/OS V5.3.0

- Enhanced configuration to auto-discover the following parameter values by the PARMGEN z/OS DLA integration:
  - Auto-discover LPAR RTE user profile parameter for each IMS subsystem monitored:
    - KI2\_I1nn\_CLASSIC\_IMSID**
    - KI2\_I1nn\_CLASSIC\_IMS\_RESLIB**
  - Auto-discover \$GBL\$USR global user profile parameters **GBL\_DSN\_IMS\_RESLIB** IMS RESLIB load library.
  - Automatically instantiate each IMS-subsystem specific parameter value for each IMS subsystem discovered to ensure uniqueness as the product requires that each IMS subsystem is monitored by a unique OMEGAMON for IMS MPREFIX, Classic started task, Classic VTAM major node, and Classic VTAM APPLID, as shown in the example of 2 IMS subsystem rows auto-discovered.

```

KI2_I101_CLASSIC_MPREFIX      "M0"
KI2_I101_CLASSIC_STC         "IBMOI0"
KI2_I101_CLASSIC_VTAM_NODE   "CTDOI0N"
KI2_I101_CLASSIC_VTAM_APPL   ""CTDOI0"
KI2_I102_CLASSIC_MPREFIX      "M1"
KI2_I102_CLASSIC_STC         "IBMOI1"
KI2_I102_CLASSIC_VTAM_NODE   "CTDOI1N"
KI2_I102_CLASSIC_VTAM_APPL   ""CTDOI1"

```

- Enhanced the default security module for **RACF (KOIRACFX)** and **ACF2 (KOIACF2X)** reference in the **PARMGEN KCIJPSEC** composite security job or the **KOISUPD OMEGAMON for IMS command table security job**, to match the **MODULE=KOIRACFX / MODULE=KOIACF2X** load module names as referenced in the **KOISUPDI** default security exit that PARMGEN KCIJPLOD job uses to copy from the SMP/E target TKANSAM dataset to the **RTE\_X\_SECURITY\_EXIT\_LIB** dataset. PARMGEN KCIJPSEC job processing presents the security exits for further customization and programmatically generates the KCIJPSEC composite security job to process the product security user modules into the RTE's RKANMODU user load library. Starting in PARMGEN 4Q16 IF, the tailored KCIJPSEC job or the standalone KOISUPD security job will use the KOIRACFX and KOIACF2X names.

### OMEGAMON XE for Messaging (WebSphere MQ, a.k.a. IBM MQ, Monitoring) V7.3.0

- Enhanced configuration to auto-discover the following parameter values by the PARMGEN z/OS DLA integration:
  - Auto-discover \$GBL\$USR global user profile parameters **GBL\_DSN\_WMQ\_SCSQANLE**, **GBL\_DSN\_WMQ\_SCSQAUTH**, and **GBL\_DSN\_WMQ\_SCSQLOAD** WebSphere MQ load libraries.
  - Auto-discover **WCONFIG(KMQ\$CURS) RKANCMU(KMQUSER) imbed** to add placeholder entries for discovered MQ Queue managers.
- Provided configuration support for message monitoring summary enhancement in order to support the security checking for situations. Refer to **HKMQ730 Fix pack 2 (FP2) APAR OA50601** for more information.

```

KMQ_MSG_GROUP_MSGSITMON      ""      * YES, NO, STATONLY
KMQ_MSG_GROUP_MSGSITACCOUNT  ""      * MQAGENT, USER=<userid>
KMQ_MSG_QACCESS_MSGSITMON    ""      * YES, NO, STATONLY
KMQ_MSG_QACCESS_MSGSITACCOUNT ""      * MQAGENT, USER=<userid>
KMQ_MSG_QACCESS_IS_DEFAULT   NO      * YES, NO

```

### OMEGAMON XE for Messaging (WebSphere Message Broker Monitoring, a.k.a. IBM Integration Bus, Monitoring) V7.3.0

- Enhanced configuration to autodiscover the following parameter values by the PARMGEN z/OS DLA integration:
  - Auto-discover LPAR RTE user profile parameter **KQI\_XML\_XIMBNAME\_MON\_BRKR\_NAME** giving the name of the broker to be monitored.
  - Auto-discover LPAR RTE user profile parameter **KQI\_XML\_XIMBDIR1** giving the broker's ENVFILE z/OS UNIX path.
  - Auto-discover \$GBL\$USR global user profile parameter **GBL\_DSN\_CEE\_SCEERUN** LE load library.
  - Auto-discover **WCONFIG(KQI\$XML) RKANDATV(KQIXML) imbed** to add XML entries for additional brokers to monitor.
  - Auto-discover monitored brokers and list each discovered broker's **STDENV USS directory** in the on-line "Post-configuration" README **KQIDFINL** that is tailored for KQI Agent.
- Added support in KQIXML for KqiAgent parameter. Supports **KQIXML's defaultRetainRecentResourceSamples** parameter **KQI\_XML\_XIRSRET\_RESOURCE\_SAMPLE**. This attribute specifies whether to collect resource statistics records from the broker. This attribute value can be either 1 or 0. When this attribute is set to 0, the Agent does not subscribe to the resource statistics that are emitted by the broker, and the Resource Statistics workspaces are empty. The default is 1. The PARMGEN KCIJPUSP job uses this value to build the RTE's RKANDATV(KQIXML). The PARMGEN KCIJPUSP job will start generating the **defaultRetainRecentResourceSamples=1** parameter in the RTE's RKANDATV(KQIXML) once PARMGEN detects that you have applied the HKQI730 PTF that ships the SMP/E target **TKANDATV(KQIXML)** product template that adds support for the **defaultRetainRecentResourceSamples="|XIRSRET|"** template.

#### OMEGAMON XE for Mainframe Networks V5.3.0

Enhanced configuration to auto-discover the following parameter values by the PARMGEN z/OS DLA integration. Auto-discover LPAR RTE user profile parameters for each TCP/IP stack monitored:

- **KN3\_TCPXnn\_TCPIP\_PROFILES\_DSN**
- **KN3\_TCPXnn\_TCPIP\_PROFILES\_MBR**

### PARMGEN PTF UA81228 for APAR OA49893 (2Q16 Interim Feature)

PARMGEN PTF UA81228 for APAR OA49893 (2Q16 Interim Feature) introduces several enhancements affecting all products that use the configuration software.

The configuration software includes the following enhancements:

- Enhanced the \$PARSE composite batch job run elapsed time-to-value savings. \$PARSE jobs have better performance.
- Enhanced the following help topics in **Welcome to the z/OS Installation and Configuration Tools for z Systems Management Suites** panel (KCIPQPGW panel / KCIHPGW help panel):
  - IBM z Systems Management Suites that PARMGEN helps deploy - Overview
  - Components in the Product Suites Matrix by Suite Code
  - Components in the Product Suites Matrix by JOBGEN Exploitation
  - Components in the Product Suites Matrix by PARMGEN Exploitation

You can have a smoother deployment of the products suites with better planning, system preparation, installation, configuration and post-configuration.

- Provided currency support:
  - Updated PARMGEN SYSCPUS pop-up panel that displays informational message about the number of CPU(s) and system hardware on the LPAR that PARMGEN is running on. Added support for new z13s (CPC Type=2965 Hardware=IBM z13s).
  - Updated the PARMGEN job KCIJPALO "Allocate runtime read-only (RO) and read-write (RW) user datasets" to accommodate PDSE V1 requirement when the RTE is enabled for PDSE support (RTE\_SMS\_PDSE\_FLAG=Y). PDSE V2 format requires DFP FMID HZD2vvv PTF UA81278/UA81279/UA81280 tracked in DFP APAR OA45431. For more information, see technote [ABENDQF4 RKANDATV](#)

[RKNSLOCL KLVPA001 KLVPA007 KLVPA002 KLVPA003](https://www.ibm.com/support/docview.wss?uid=swg21984143) (<https://www.ibm.com/support/docview.wss?uid=swg21984143>).

- Updated the default value of parameter GBL\_HFS\_JAVA\_DIR1 (for global Java bin path) from /usr/lpp/java/J6.0 to /usr/lpp/java/J7.1 for new RTE deployments.
- Enhanced the RTE\_USS\_RTEDIR and TKANJAR DDEF processing by providing a runtime version of the installation z/OS® UNIX® System Services directory. If you have copies of the SMP/E targets on z/OS and z/OS UNIX directories, you can deploy the new maintenance to the runtime copies based on their maintenance rollout schedule.
- Additional IVP advanced validation checks during PARMGEN \$PARSE VALIDATE step or PARMGEN KCIJVAL standalone validation job:
  - Detect an warning if the RTE is enabled for variables to review RTE\_USS\_RTEDIR parameter for more information. If the RTE has variables enabled, the corresponding KDS\_KMS\_SDA user symbol resolution value is set to Y in the GBL\_USER\_JCL RTE variables profile.
  - Detect an error condition when OMEGAMON XE for DB2 profile parameter KD2\_DBnn\_DB2\_PORT\_NUM port number is not unique per DB2 subsystem.
  - Detect an error condition when required KI2\_I1nn\_CLASSIC\_IMS\_RESLIB profile table parameter is not supplied for configuring OMEGAMON XE for IMS product.
- Enhanced %GBL\_USER\_JCL%(RTE\_NAME%) LPAR RTE variables and %GBL\_USER\_JCL%(KCI\$RTEV) LPAR RTE IBM default variables profile to provide best-practice user symbols used in the WCONFIG(RTE\_NAME%) LPAR RTE profile and in the WCONFIG(Kpp\$\*) override imbeds. Provide tailored or predefined model user symbols for quicker deployment of operational changes.
  - From %GBL\_USER\_JCL%(KCI\$RTEV) IBM default variables profile and %GBL\_USER\_JCL%(RTE\_NAME%) LPAR RTE user variables profile:

```

- KDS_USERS_NO_MSGLOG "SRVR01,sysadmin,KOB101,Kpp" *example usage syntax
- KOE_ALLOW_ANY_UID 1 *default if used
- KOE_ALLOW_UNDEFINED 1 *default if used
- KM5_KM5ZIIPOFFLOAD NO *if parameter is enabled
- KM5_RMF_DDS "NO" *default if used
- *KM5_RMF_DDS "%KM5_RMF_DDS_COLLECTION%" *Your WCONFIG

```

- From WCONFIG(KDS\$PENV) TEMS KDSENV imbed:
 

```

KDS_USERS_NO_MSGLOG "SRVR01,sysadmin"
*KDS_USERS_NO_MSGLOG=&KDS_USERS_NO_MSGLOG.
*KOE_ALLOW_ANY_UID=1
*KOE_ALLOW_ANY_UID=&KOE_ALLOW_ANY_UID.
*KOE_ALLOW_UNDEFINED=1
*KOE_ALLOW_UNDEFINED=&KOE_ALLOW_UNDEFINED.
*KM5ZIIPOFFLOAD=NO
*KM5ZIIPOFFLOAD=&KM5_KM5ZIIPOFFLOAD.

```
- Provided default placeholder parameter support in various WCONFIG(Kpp\$PENV) imbeds to the xKANPARU(KppENV) environment runtime members.
  - KDS\_USERS\_NO\_MSGLOG=SRVR01,sysadmin in TEMS KDS\$PENV
  - \*KDS\_USERS\_NO\_MSGLOG=&KDS\_USERS\_NO\_MSGLOG. in TEMS KDS\$PENV
  - \*KOE\_ALLOW\_ANY\_UID=1 in TEMS KDS\$PENV
  - \*KOE\_ALLOW\_ANY\_UID=&KOE\_ALLOW\_ANY\_UID. in TEMS KDS\$PENV
  - \*KOE\_ALLOW\_UNDEFINED=1 in TEMS KDS\$PENV
  - \*KOE\_ALLOW\_UNDEFINED=&KOE\_ALLOW\_UNDEFINED. in TEMS KDS\$PENV
  - \*KM5ZIIPOFFLOAD=NO in TEMS KDS\$PENV
  - \*KM5ZIIPOFFLOAD=&KM5\_KM5ZIIPOFFLOAD. in TEMS KDS\$PENV
- Provided new &gbl\_target\_hilev.TKANSAM(\*MDL\*) predefined RTE models to quickly deploy other types of RTEs and product combination.

Table 126: New predefined RTE models

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF21	\$MDLHSBV	Sharing-with-base	Hub	Yes	Predefined RTE models include a z/OS Tivoli Enterprise Monitoring Server (TEMS, whether this is a Hub TEMS or a Remote TEMS), an OMEGAMON enhanced 3270 user interface (TOM) and both types of z/OS monitoring Agents (Agents that run in the z/OS TEMS address space and Agents that run in their own standalone Agent address spaces).
QCF22	@MDLHSSV	Sharing-with-SMP/E	Hub	Yes	Predefined RTE models include a z/OS Tivoli Enterprise Monitoring Server (TEMS, whether this is a Hub TEMS or a Remote TEMS), an OMEGAMON enhanced 3270 user interface (TOM) and both types of z/OS monitoring Agents (Agents that run in the z/OS TEMS address space and Agents that run in their own standalone Agent address spaces).

- Enhanced “Set up/Refresh PARMGEN work environment” KCIJPCFG processing for brand new user of PARMGEN in a new LPAR by including the user’s accounting information (ZACCTNUM) in the IBM-supplied jobcard.
- Enhanced “Set up/Refresh PARMGEN work environment” KCIJPCFG processing discussed in the [“SMP/E maintenance and upgrade scenarios” on page 818](#) by automatically defaulting a backup RTE profile member name on the “KCIP@BAK IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES” panel. The KCIJPPRF profile refresh job is submitted automatically by the KCIJPCFG job to simplify the following processes:
  - The refreshing of product templates in IK\* datasets.
  - The rebuilding of the LPAR RTE and global profiles (IBM-supplied) with the new values.
  - The merging of the customized profile values from the backed-up LPAR RTE user profile into the refreshed WCONFIG RTE profile.
  - The generating of a delta report.
- Enhanced panel and on-line help panel updates to aid in deployment.
  - Enhanced the main PARMGEN “Welcome to the z/OS Installation and Configuration Tools for z Systems Management Suites” by streamlining the configuration workflow option to display a streamlined “Configuration Workflow (Post-installation): Configure z/OS products with Parameter Generator Workflow (PARMGEN)” selection only, rather than providing recommended Quick Configuration mode and the alternate Standard Configuration mode.
  - Enhanced the “R” option on the “KCIPQPGB PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU” panel by clarifying the option name as “R Create next RTE - Reset fields” and navigating the user automatically to the “KCIPQPGA PARAMETER GENERATOR (PARMGEN) WORKFLOW MENU” panel to supply the RTE name of the next RTE to create or clone from an existing RTE.
  - Added profile parameter on-line help text in F1=HELP for the following parameters:
    - Global profile parameters in WCONFIG(\$GBL\*) prefixed by GBL\_.
    - Common LPAR profile parameters in WCONFIG(%RTE\_NAME%) prefixed by RTE\_.
    - TEMS profile parameters in WCONFIG(%RTE\_NAME%) prefixed by KDS\_X\_.
    - Common Agent profile parameters in WCONFIG(%RTE\_NAME%) prefixed by Kpp\_X\_.
  - Enhanced the “F16=CLNESECT CLONE SECTION” KCIP@PM2 panel to provide better examples and a complete list of Kpp product table profile parameters that can be cloned.
  - Enhanced the “IMPORTANT - REFRESH THE LPAR RTE USER AND IBM PROFILES” KCIP@BAK panel to provide a default backup LPAR RTE profile name to the “%RTE\_NAME% Backup member name” field.
  - Updated existing help topics focusing on additional system preparation requirements for products that have z/OS UNIX SMP/E and configuration deployment requirements when SDA is enabled, and for products that update their TKANJAR DD jar files.
  - Added help topics focusing on PARMGEN utilities such as PF Keys and macros.
  - Added help topics focusing on PARMGEN Transport scenarios.

## Product-specific enhancements

The following product-specific enhancements are provided in this release:

### Tivoli Management Services: Engine infrastructure common to TEMS and Agents

The following features are added:

- (For TEMS) Provided configuration support for a new KDS\_X\_HUB\_CMS\_FTO\_FLAG profile parameter which generates the CMS\_FTO=%KDS\_X\_HUB\_CMS\_FTO\_FLAG% parameter in the TEMS xKANPARU(KDSENV) runtime member. KDS\_X\_HUB\_\* parameters are applicable to a z/OS Remote TEMS based on these scenarios:
  - z/OS Remote TEMS connecting to a non-z/OS Hub TEMS enabled with the Hot Standby (FTO) feature.

- z/OS Remote TEMS connecting to a z/OS High Availability (HA) Hub TEMS (Primary TEMS) and a z/OS HA Hub TEMS (Standby TEMS).
- (For TEMS) Enabled “KDS\_USERS\_NO\_MSGLOG=SRVR01,sysadmin” parameter by default in the TEMS WCONFIG(KDS\$PENV) imbed to xKANPARU(KDSENV) TEMS environmental runtime member. The KDS\_USERS\_NO\_MSGLOG=&userid parameter is used to suppress the z/OS TEMS RKLVLLOG DD messages if the &userid TMS component is contained in a list. The list is provided by KDS\_USERS\_NO\_MSGLOG KDSENV variable that the customer can modify as needed.
- (For TEMS) Enhanced the existing WCONFIG(KDS\$SDMP) for the TEMS SYS%DUMP DD imbed to the started task to default the DDNAME to an enabled SYSDUMP DD instead of SYSUDUMP DD. KCIJPALO job now allocates the SYSDUMP dataset by default.
- Enhanced persistent datastore processing by ensuring that the %RTE\_PDS\_HILEV%.KPDCTLL sequential file is allocated as DISP=OLD.

### **IBM OMEGAMON for JVM on z/OS V5.3.0**

The following features are added:

- Updated the product’s post-configuration README:
  - Add a step documenting how to monitor a JVM running in a DB2 stored procedure.
  - Add a step to refresh jar files after SMP/E maintenance by rerunning the KCIJPUSS job.
  - Add an optional step to enable %KJJ\_COLLECTOR\_STC% JTCOLL Collector trace options.
- Added a new WCONFIG(KJJ\$SDMP) SYS%DUMP DD imbed to the OMEGAMON for JVM Agent’s started task. A placeholder SYSUDUMP DD pointing to spool datasets is also provided as an example, if you prefer to store the data in the spool, instead of the default SYSDUMP sequential dataset. If you want to have a SYSUDUMP DD instead of SYSDUMP DD, modify the DDs accordingly.

### **OMEGAMON Enhanced 3270 User Interface V7.3.0**

The following feature is added:

- Added a new WCONFIG(KJJ\$SDMP) SYS%DUMP DD imbed to the OMEGAMON for JVM Agent’s started task. A placeholder SYSUDUMP DD pointing to spool datasets is also provided as an example, if you prefer to store the data in the spool, instead of the default SYSDUMP sequential dataset. If you want to have a SYSUDUMP DD instead of SYSDUMP DD, modify the DDs accordingly.

### **OMEGAMON Subsystem V7.3.0**

The following features are added:

- Added a new WCONFIG(KCN\$SDMP) for OMEGAMON Subsystem SYS%DUMP DD imbed to the started task. KCIJPALO job allocates the SYSDUMP dataset by default.
- Modified the OMEGAMON Subsystem default STC PROC symbols to better accommodate enablement of the optional RST=',RESTART=FORCE' keyword. STC PROC symbols UMAX and FSCR are now enabled via internal code by default, which is sufficient for OMEGAMON Subsystem usage.

### **OMEGAMON XE on z/OS V5.3.0**

The following features are added:

- Updated dynamic ICSF configuration support for new KM5CSFSX ICSF monitoring module in stead of KM5EXIT4 module to support FMID HKM5530 APAR OA50548 IF changes.
- Added placeholder parameter support for the following parameters in the WCONFIG(KDS\$PENV) imbed to the TEMS xKANPARU(KDSENV) environmental file, which is read at TEMS STC startup (OMXE on z/OS Agent runs in the TEMS address space):
  - \*KOE\_ALLOW\_ANY\_UID=1
  - \*KOE\_ALLOW\_ANY\_UID=&KOE\_ALLOW\_ANY\_UID.
  - \*KOE\_ALLOW\_UNDEFINED=1
  - \*KOE\_ALLOW\_UNDEFINED=&KOE\_ALLOW\_UNDEFINED.
  - \*KM5ZIIPOFFLOAD=NO
  - \*KM5ZIIPOFFLOAD=&KM5\_KM5ZIIPOFFLOAD.

### **OMEGAMON XE for DB2 PE/PM V5.3.0**

The following feature is added:

- Removed obsolete profile parameters as their value are not used in PARMGEN when generating the KD2VTP virtual terminal pool startup runtime member in the RTE's RKANCMU dataset. Standard KD2\_CUA\_VTAM\_VTPOOL\_PREFIX is used instead to simplify the VTPOOL APPLID generation starting in 01 range through %KD2\_CUA\_VTAM\_VTPOOL\_NUM% number:
  - KD2\_CUA\_VTAM\_VTRM\_APPL\_LENGTH
  - KD2\_CUA\_VTAM\_VTRM\_SUFFIX

### **OMEGAMON XE for Messaging (WebSphere MQ Monitoring) V7.3.0**

The following features are added:

- Increased the default KMQ\_PD\_CYL persistent datastore cylinder size profile parameter from 120 to 300 cylinders so the composite PARMGEN KCIJPALO "Allocate runtime RO and RW datasets" job or the KMQJPALP KMQ Agent's standalone PDS allocation job allocates enough space for the default 6 %RTE\_PDS\_HILEV%.RKMQPDSn persistent datastore sequential files for history storage (for both the TEPS ITM PDS history collection and for OMEGAMON enhanced 3270UI near-term history).
- Provided configuration support for message monitoring summary enhancement in order to support the security checking for situations.
- Updated the KMQDFINL post-configuration on-line README to add a new "Grant authorities to WebSphere MQ Monitoring and WebSphere MQ Configuration Agents" post-configuration step.

### **OMEGAMON XE for Messaging (WebSphere Message Broker Monitoring a.k.a. IBM Integration Bus [IIB])**

#### **V7.3.0**

The following features are added:

- Increased the default KQI\_PD\_CYL persistent datastore cylinder size profile parameter from 178 to 250 cylinders so the composite PARMGEN KCIJPALO "Allocate runtime RO and RW datasets" job or the KQIJPALP KQI Agent's standalone PDS allocation job allocates enough space for the default 6 %RTE\_PDS\_HILEV%.RKQIPDSn persistent datastore sequential files for history storage (for both the TEPS ITM PDS history collection and for future OMEGAMON enhanced 3270UI IIB near-term history exploitation).
- Updated the KQIDFINL post-configuration on-line README to add a new "Authorize WebSphere Message Broker Monitoring Agent and set WebSphere Message Broker Monitoring Agent parameters" post-configuration step

### **IBM Advanced Audit for DFSMSHsm V2.6.0**

The following features are added:

- This is JOBGEN SMP/E installation and PARMGEN application configuration support for IBM Advanced Audit for DFSMSHsm V2.6.0 (HKRG260 FMID) Agent.
- The following configuration enhancements are provided in support of new features delivered in this new version.
  - Added JOBGEN TKCIINST(KCIDJG00) new product SMP/E installation support for new HKRG260 FMID.
  - Added full standalone Agent configuration support for this new version of the Agent.

### **IBM Advanced Reporting and Management-HSM V2.6.0**

The following features are added:

- This is JOBGEN SMP/E installation and PARMGEN application configuration support for IBM Advanced Reporting and Management-HSM V2.6.0 (HKRH260 FMID) Agent.
- The following configuration enhancements are provided in support of new features delivered in this new version.
  - Added JOBGEN TKCIINST(KCIDJG00) new product SMP/E installation support for new HKRH260 FMID.
  - Added full standalone Agent configuration support for this new version of the Agent.

## PARMGEN PTF UA80256 for APAR OA48678 (1Q16 Interim Feature)

PARMGEN PTF UA80256 for APAR OA48678 (1Q16 Interim Feature) introduces several enhancements affecting all products that use the configuration software.

The configuration software includes the following enhancements:

- New IBM Tivoli OMEGAMON XE on z/OS Monitoring Feature for JVM (HKJJ530 FMID)
- New cross-RTE command “LOADDATV” to submit a new KCIJ@ODI multi-load RKANDATV runtime libraries composite job for all listed RTEs
- New global parameter GBL\_USS\_TKANJAR\_PATH
- Ongoing PARMGEN \$PARSE/\$PARSESV performance improvements involving streamlining PARMGEN runtime members logic processing
- Additional IVP advanced validation checks during PARMGEN \$PARSE “Create runtime members and jobs” VALIDATE step or PARMGEN KCIJPVAL standalone validation job
- Updated “KCIP@TLV – SPECIFY GBL\_TARGET\_HILEV PARAMETER” processing to programmatically detect the two conditions as to why PARMGEN presents the panel
- New PARMGEN INIT invocation command to redrive the updated “KCIP@TLV - SPECIFY GBL\_TARGET\_HILEV PARAMETER” panel, in cases where you need to refresh GBL\_TARGET\_HILEV-related values appropriate for your deployment.
- New PARMGEN LOCATE/LOC/L commands on the Runtime Environments (RTEs) panel (KCIP@RTE) to make it easier to locate an RTE for further processing
- PARMGEN SYSCPUS informational messages to display the number of CPUs and the system hardware on which PARMGEN is being executed
- New PARMGEN KCIRMVCP utility macro: KCIRMVCP move/copy/allocate exec and KCIPCPY\* panels. For more information about how to activate the utility macro, see new help topics on the “KCIH@PG5 CUSTOMIZE PARMGEN CONFIGURATION PROFILES” help panel: “3 XF “Exclude Find” and KCIRMVCP move/copy/allocate macro”
- Enhanced PARMGEN system and user variables handling:
  - New optional global variables profile called %GBL\_USER\_JCL%(KCI\$GBLV) applicable to all RTEs
  - Tailored IBM default variables profile (%GBL\_USER\_JCL%(KCI\$RTEV)) based on customer's existing LPAR RTE profile customization values
  - Enhanced %GBL\_USER\_JCL%(RTE\_NAME%) LPAR RTE variables user profile to provide handy placeholder examples of typical types of system variables used during PARMGEN System Variables RTE configuration such as:
    - Type 1: Static system symbols
    - Type 2: PARMGEN KCIPARSE-extracted symbols
    - Type 3: User-defined symbols
  - Enhanced %GBL\_USER\_JCL%(KCI\$RTEV) IBM default variables profile to provide additional handy system and user-defined symbols; pre-defined TKANSAM(\$MDLVARS) model introduced in 3Q14 PARMGEN IF is available for merging via KCIJPMCF merge profile job
- Updated KCIJPCOL PDCOLLECT tailored job to add SDSF considerations and to default the NO() job number parameter to NO(S\*) instead of NO(STC\*)
- New on-line help panels focusing on PARMGEN utilities and PARMGEN Transport scenarios to aid in deployment:
  - Added help topics on PARMGEN utilities such as PF Keys and macros such as XF “EXCLUDE FIND” and KCIRMVCP MOVE/COPY/ALLOCATE dataset/members macros, and PF Keys such as F1=PARMHELP / F15=HIDECMNT / F16=CLNESECT (F1 to view parameter on-line help, F15 to hide profile comments, and F16 to clone parameter section for a table row)
  - Added help topics on PARMGEN Transport scenarios

- New detailed discussion on system preparation topics such as "IBM Management Suites that JOBGEN/ PARMGEN help deploy – Overview," "Components in the Product Suites Matrix by Suite Code," "Components in the Product Suites Matrix by JOBGEN Exploitation," and "Components in the Product Suites Matrix by PARMGEN Exploitation"
- New predefined &gbl\_target\_hilev.TKANSAM(\*MDL\*) predefined RTE models to quickly deploy other types of RTEs and product combination  
This table summarizes the new RTE models.

<i>Table 127: Summary of new RTE models</i>					
Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF13	\$MDLAFV	Full	Remote	Yes	RTE configuration template for full, stand-alone RTE (Agents only with variables enabled connecting to a z/OS TEMS in another RTE)
QCF14	@MDLAF	Full	Remote	No	IBM-provided RTE configuration template for full, standalone RTE (Agents only connecting to a z/OS TEMS in another RTE)
QCF15	\$MDLASBV	Sharing-with-base	Remote	Yes	RTE configuration template for sharing-with-base read-only libraries RTE (Agents only with variables enabled connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF16	@MDLASB	Sharing-with-base	Remote	No	RTE configuration template for sharing-with-base read-only libraries RTE (Agents only connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF17	@MDLASSV	Sharing-with-SMP/E	Remote	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Agents only with variables enabled connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)

Scenario	Template name	RTE type	Monitoring server type	System variables	Description
QCF18	@MDLASS	Sharing-with-SMP/E	Remote	No	RTE configuration template for sharing-with-SMP/E datasets RTE (Agents only connecting to a non-local TEMS configured in another RTE or running on another non-z/OS platform)
QCF19	\$MDLHSSV	Sharing-with-SMP/E	Hub	Yes	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS, enhanced 3270 user interface (TOM) and OMEGAMON Monitoring for JVM (KJJ) Agent only with variables enabled)
QCF20	\$MDLHSS	Sharing-with-SMP/E	Hub	No	RTE configuration template for sharing-with-SMP/E target read-only datasets RTE (Static Hub TEMS, enhanced 3270 user interface (TOM) and OMEGAMON Monitoring for JVM (KJJ) Agent only)

- Enhanced on-line parameter help information for various Kpp\_AGT\_\* common Agent parameters when placing the cursor on the parameter and pressing the F1=Help key while customizing the WCONFIG profiles (LPAR RTE %RTE\_NAME% and \$GBL\$USR global user profiles)
- Enhanced xKANSAMU(KCIJPDEL) composite RTE Delete job to use DELETE MASK IDCAMS function
- Sample SMP/E versions of sample KCIJPBSA RTE allocation job for shared base, read-only datasets, and sample KCIJPBSL RTE load job for shared base, read-only datasets
- Default placeholder parameter support for KMS\_EXPAND\_EMBEDDED\_SIT=N in the TEMS WCONFIG(KDS\$PENV) imbed to xKANPARU(KDSENV) TEMS environment runtime member
- Enhanced KCIJPLOD job and product-specific REPRO jobs and KppJPLDB input to the composite xKANSAMU(KCIJPLOD) RTE load job's REPROKpp steps in support of products with REPRO seeding requirements to the Hub TEMS' RKDSRULD VSAM dataset (QA1CRULD DD in the TEMS started task)
- New xKANSAMU(KDSDELRM) tailored job to delete the Hub TEMS VSAM dataset if the TEMS in RTE is configured to be a Remote TEMS
- Updated WCONFIG(\$JOBINDEX) PARMGEN job index with all TEMS-related utility jobs

### Product-specific enhancements

The following product-specific enhancements are provided in this release:

#### OMEGAMON® XE on z/OS Monitoring Feature for JVM

The following JOBGEN SMP/E installation and PARMGEN application configuration support is provided:

- JOBGEN TKCIINST(KCIDJG00) new product SMP/E installation support
- Full Agent configuration support

### OMEGAMON® enhanced 3270 user interface V7.3.0

The following support has been added:

- KOB Registry Query SQL support with new KOB\_REGQUERY\_\* parameters in WCONFIG(KOB\$PENV) imbed to xKANPARU(KOBENV)
- EIF tab toleration support for the KOB\_SITST\_\* situation status tree function

### OMEGAMON® XE for CICS® on z/OS® V5.1.0 and later versions

The following support is provided:

- Enhanced TKANJAR SMP/E DDDEF maintenance processing with a runtime version of the jar install directory housing the kgw\_monitor.jar file
- Support of the new KCIMKXDV step in the KCIPUSP z/OS® UNIX® System Services system preparation job and new KCIMKDRB and KCIJARPX steps in the KCIJPUSJ job for kgw\_monitor.jar maintenance for Full RTEs and non-SMP/E-sharing RTEs with the new tailored "Step 6 - Refresh jar files after SMP/E maintenance" in the post-configuration online README file
- New standalone KCIUSPJB/KCIUSSJB standalone jobs for KGW\*-related steps to maintain kgw\_monitor.jar

### OMEGAMON® XE for DB2 PE/PM V5.3.0

The following support is provided:

- Added SQLPA V5.1 support in KD2\_PFn\_SQLPA\_VERSION

### OMEGAMON® XE on z/OS® V5.3.0

The following support has been added:

- Dynamic ICSF configuration support for new ICSF exit KM5CSFSX dynamic ICSF monitoring module to support FMID HKM5530 APAR OA49689.
- New post-configuration "(Optional) If you want OMEGAMON XE on z/OS to connect to an IBM z Aware server to monitor z Aware data, review the 'Configuration for connection to an IBM z Aware server'" topic.

### OMEGAMON® XE for Storage on z/OS® V5.1.0 and later versions

The following support has been added:

- Modified "JOBPARM SYSAFF=\*" instead of original default "JOBPARM SYSAFF=%KS3TK\_SYST\_NAME%" in the RTE's xKANPARU(KS3CA1J) and xKANPARU(KS3EXTJ) runtime members.

### Various products

PARMGEN configuration support is removed for the following components at the end of its life cycle:

<i>Table 128: Components no longer supported in PARMGEN</i>	
<b>Kpp</b>	<b>Product Name and Version</b>
KHL	OMEGAMON® z/OS® Management Console Agent V4.1.0 (KHL functions merged with OMEGAMON® XE on z/OS® V5.1.0 and later versions of the KM5 Agent)
KRG	Advanced Audit for DFSMSHsm pre-V2.5.0
KRH	Advanced Reporting and Management-HSM pre-V2.5.0
KRJ	Advanced Allocation Management pre-V3.3.0
KRK	Automated Tape Allocation Manager pre-V3.3.0
KRN	Advanced Catalog Management pre-V2.5.0
KRV	Advanced Backup and Recovery pre-V2.4.0

## PARMGEN PTF UA77851 for APAR OA47937 (3Q15 Interim Feature)

PARMGEN PTF UA77851 for APAR OA47937 (PARMGEN 3Q15 Interim Feature) introduces significant enhancements to the PARMGEN Workflow interface and new and modified parameters, embed files and batch jobs. The enhancements discussed here affect all products that use the configuration software.

The configuration software includes the following enhancements:

- New parameters for customizing the Situation Status Tree in OMEGAMON® Dashboard Edition for z/OS®.
- New global variable source library GBL\_DSN\_GLOBAL\_SOURCE\_LIB for KppGLB\* global data members (OMEGAMON® XE for CICS® and OMEGAMON® XE for IMS™ V5.3.0, and later versions).
- Enhanced PARMGEN system and user variables handling:
  - New default variables %GBL\_USER\_JCL%(KCI\$RTEV) profile based on existing LPAR RTE profile customization values.
  - Enhanced %GBL\_USER\_JCL%(RTE\_NAME%) LPAR RTE variables user profile including examples of typical PARMGEN system variables.
  - Enhanced %GBL\_USER\_JCL%(KCI\$RTEV) default variables profile including new system and user-defined symbols.
- Enhanced PARMGEN Quick Configuration mode including new and updated WCONFIG override imbeds, deployment parameters, user variables, IVP advanced validation checks and online POSTCFG README steps.
- Capability to override the JCL REGION value in additional PARMGEN jobs.

### Product-specific enhancements

The following OMEGAMON® product-specific enhancements are provided in this release:

#### OMEGAMON® enhanced 3270 user interface V7.3.0

The following support has been added:

- KOB\_SITST\_\* situation data collection parameters in the WCONFIG(KOB\$PENV) imbed for the RKANPARU(KOBENV) environmental runtime member.
- FB-to-VB conversion support for the xKANSAMU(KOBXKNCP) copy job.
- Modified post-configuration online printable README steps.

#### OMEGAMON® XE for IMS™ V5.3.0

The following JOBGEN SMP/E installation and PARMGEN application configuration support is provided:

- JOBGEN TKCIINST(KCIDJG00) new version SMP/E installation support.
- IMS™ V14.1 KOICTOQ module support in the composite KCIJPSEC job and OMXE IMS-specific equivalent job (KOISUPD).
- IMS™ V14.1 KI2BMPO0 module support in the composite KCIJPLNK job and OMXE IMS-specific equivalent job (KI2BLDLI).
- Near-term history support in the OMEGAMON® enhanced 3270 user interface.
- KIPGLB Global data (text format).
- z/OS® System Logger support for the Application Trace Facility (ATF) function.
- New post-configuration online printable README steps.

#### OMEGAMON® XE for Mainframe Networks V5.3.0

The following JOBGEN SMP/E installation and PARMGEN application configuration support is provided:

- JOBGEN TKCIINST(KCIDJG00) new version SMP/E installation support.
- Near-term history support in the OMEGAMON® enhanced 3270 user interface.
- New post-configuration online printable README steps to aid in deployment.

#### OMEGAMON® XE for CICS® on z/OS® V5.1.0 and later versions

Support has been added for the new GBL\_DSN\_GLOBAL\_SOURCE\_LIB common product global variables source library for managing KC2GLB\* global variables via PARMGEN online support.

### **OMEGAMON® XE on z/OS® V5.1.0 and later versions**

The following support has been added:

- New KOE\_MFSB\_WUI=600, KOE\_MFSB\_MDI=18000 and KOE\_MFSB\_TBI=18000 parameters in the WCONFIG(KDS\$PENV) TEMS imbed to the RKANPARU(KDSENV) TEMS environmental runtime member.
- Enhanced KM5\_SYSPLEX\_PROXY\_POSITION LPAR RTE profile comments for using the z/OS® display XCF command to identify the primary sysplex proxy.

### **New enhanced 3270 user interface (KOB) parameters**

For more information about these new enhanced 3270 user interface (KOB) parameters, see the corresponding topic in [“Common parameters” on page 1257](#).

**Note:** To view and customize a Situation Status Tree, you must have OMEGAMON® Dashboard Edition on z/OS® installed.

#### **KOB\_SITST\_EXCLUDE\_HUBS**

This parameter excludes one or more Hub TEMS from periodic data collection. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or added using the Nonstandard Parameter Editor (Configuration Tool).

#### **KOB\_SITST\_HISTORY\_RANGE**

This parameter specifies the total length of time (in minutes, hours, or days) for the historical summary of situation data to keep and display data for. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or added using the Nonstandard Parameter Editor (Configuration Tool).

#### **KOB\_SITST\_HISTORY\_SLOTS**

This parameter specifies the number of slots for the OMEGAMON® Enhanced 3270UI to keep for the historical situation status. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or added using the Nonstandard Parameter Editor (Configuration Tool).

#### **KOB\_SITST\_INCLUDE\_HUBS**

This parameter includes one or more Hub TEMS for periodic data collection. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or added using the Nonstandard Parameter Editor (Configuration Tool).

#### **KOB\_SITST\_RECENT\_SLOTS**

This parameter specifies the number of slots for the OMEGAMON® Enhanced 3270UI to keep for the recent situation status. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or added using the Nonstandard Parameter Editor (Configuration Tool).

#### **KOB\_SITST\_SAMPLE\_MINUTES**

This parameter specifies the sampling interval (in minutes) for OMEGAMON® Enhanced 3270UI to use to gather data about situations. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or added using the Nonstandard Parameter Editor (Configuration Tool).

### **PARMGEN PTF UA76853 for APAR OA46817 (2Q15 Interim Feature)**

PTF UA76853 for APAR OA46817 (2Q15 Interim Feature) bring significant changes to the PARMGEN Workflow interface and introduce new and modified parameters, embed files and batch jobs. The enhancements discussed here affect all products that use the configuration software.

The configuration software includes the following enhancements:

- New parameters to support the customization of the Situation Status Tree on OMEGAMON® Dashboard Edition on z/OS.
- Added support for the z/OS 2.2 release (ZOS0202T/K).
- Additional Quick configuration mode improvements such as a new @MDLHSB QCF12 predefined RTE model to cater to sharing-w/-base RTE w/ Hub TEMS/Agents for First-Time-Users (FTUs).

- Persistent data store enhancements to accommodate the near-term history feature that is introduced by the OMEGAMON® enhanced 3270 user interface.
- New problem determination data collection KCIPDCOL tool, which uses the new PARMGEN KCIJPCOL job (formerly PDCOLLECT).
- New parameters to support the integration between OMEGAMON® XE Agents, Tivoli® Enterprise Portal System, and IBM® Operations Analytics - Log Analysis (formerly IBM SmartCloud® Analytics - Log Analysis).
- Enhanced end-to-end handling (creating, verifying, converting and copying) of global variables through a new user-customizable common global variables source library (GBL\_DSN\_GLOBAL\_SOURCE\_LIB) for products that provide KppGLB\* global data members. This new dataset is automatically created, loaded and concatenated by PARMGEN in the product-specific started task global variable DDNAME (RKppGLBL DD).
- Additional PARMGEN Deployment Time-To-Value Optimization Enhancements:
  - New common global source dataset for simplified management of products with global data members
  - Faster \$PARSE "Create runtime members and jobs" batch job runs, averaging 30-45% time savings
  - Enhanced RTE variables processing by providing additional system and user-defined symbols for quicker deployment of operational changes
  - Advanced configuration verification validation checks
  - New online printable post-configuration important README steps that save deployment and reconfiguration time
  - Automated SUPERF report with each \$PARSE\* job.

### Product-specific enhancements

The following product-specific enhancements are provided in this release:

#### Common TEMS/Agent/CUA TMS:Engine SYSTCPD DD global parameter GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA

Support RFE70755 to allow sequential dataset format for SYSTCPD DD dataset value.

#### OMEGAMON Enhanced 3270 User Interface V7.3.0

Add support for a new xKANSAMU(KOBXKNCP) tailored copy job to copy OMEGAMON Enhanced 3270 User Interface support elements into the alternate %RTE\_XKAN\_HILEV%.XKANWENU/XKANHENU/XKANEXEC Tivoli OMEGAMON (TOM) datasets for other integration products that deliver workspaces and other OMEGAMON enhanced 3270UI support elements.

#### OMEGAMON XE for DB2 PE/PM V5.3.0

This is JOBGEN SMP/E installation and PARMGEN application configuration support for the new version of OMEGAMON XE for DB2 PE/PM product (HKDB53x FMID).

- Add JOBGEN TKCIINST(KCIDJG00) new version SMP/E installation support.
- Add toleration and new version configuration support in KCICRPLC PARMGEN "Create additional DB2 runtime members" processor invoked by \$PARSE\* job.
- Support for new OMDB2 V530 DB2 plan and package names for binds and grants in these tailored jobs:
  - - *OMBD%KD2\_DBnn\_DB2\_SSID% Bind OMEGAMON Server Packages (KO2OM%KD5VER%) job*
  - - *OMBP%KD2\_DBnn\_DB2\_SSID% Bind OMEGAMON Server DB2 Plan (KO2PLAN) job*
  - - *OMGR%KD2\_DBnn\_DB2\_SSID% Grant DB2 privileges to OMEGAMON Collector Plan/Package OWNER()*
- Add Spreadsheet Input-Data Generator TKANSAMF/RKANSAMF PARMGEN processing in KCIJPALO/KCIJPLOD jobs.
- Add DB2 autodiscovery code ("DPDC AUTODISCOVER") support only in xKANCMDU(KDPSTART) OMXE DB2 Agent startup command member.
- Add IBM DB2 Query Monitor for z/OS (KQQ) integration with OMEGAMON enhanced 3270 user interface configuration support.
- Add support for new WCONFIG(KD2\$POMD) imbed which provides the flexibility to add the more advanced type parameters such as additional DB2COMMAND parameters.
- Add new post-configuration on-line, printable README steps to aid in deployment.

- Provide toleration support for the drop of Japanese NLS FMID.

### OMEGAMON XE for CICS on z/OS V5.3.0 and later versions

Add support for exploiting a new “GBL\_DSN\_GLOBAL\_SOURCE\_LIB” common product global source library.

### New Enhanced 3270 user interface (KOB) parameters

For more information about any of these parameters, see the corresponding topic in [“Common parameters” on page 1257](#).

**Note: To view and customize a Situation Status Tree, you must have OMEGAMON® Dashboard Edition on z/OS installed, and APAR OA46867 applied.**

#### KOB\_SITST\_EXCLUDE\_HUBS

This parameter is used to exclude one or more Hub TEMS from periodic data collection. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or to the *rPlibHilev.rte\_name.EMBEDS(KOB\$PENV)* member for Configuration Manager processing.

#### KOB\_SITST\_HISTORY\_RANGE

This parameter is the total length of time (in Minutes, Hours, or Days) the historical summary of situation data will keep and display data for. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or to the *rPlibHilev.rte\_name.EMBEDS(KOB\$PENV)* member for Configuration Manager processing.

#### KOB\_SITST\_HISTORY\_SLOTS

This parameter is the number of slots that you want the OMEGAMON Enhanced 3270UI to keep for the historical situation status. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or to the *rPlibHilev.rte\_name.EMBEDS(KOB\$PENV)* member for Configuration Manager processing.

#### KOB\_SITST\_INCLUDE\_HUBS

This parameter is used to include one or more Hub TEMS from periodic data collection. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or to the *rPlibHilev.rte\_name.EMBEDS(KOB\$PENV)* member for Configuration Manager processing.

#### KOB\_SITST\_RECENT\_SLOTS

This parameter is the number of slots that you want the OMEGAMON Enhanced 3270UI to keep for the recent situation status. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or to the *rPlibHilev.rte\_name.EMBEDS(KOB\$PENV)* member for Configuration Manager processing.

#### KOB\_SITST\_SAMPLE\_MINUTES

This parameter is the sampling interval (in minutes) that you want the OMEGAMON Enhanced 3270UI to gather data about situations. This parameter must be added to the WCONFIG(KOB\$PENV) member (PARMGEN) or to the *rPlibHilev.rte\_name.EMBEDS(KOB\$PENV)* member for Configuration Manager processing.

### PARMGEN PTF UA76016 for APAR OA46184 (1Q15 Interim Feature)

PARMGEN PTF UA76016 for APAR OA46184 (1Q15 Interim Feature) introduces several enhancements affecting all products that use the configuration software.

The configuration software includes the following enhancements:

#### New WCONFIG RTE LPAR profile parameters

- Provide the flexibility to override the JCL REGION value in all PARMGEN jobs, including the KCIJPCFG, KCIJPPRF, KCIJPUP1, and \$PARSE\* related jobs in “Set-up PARMGEN work environment”. KCIP@PG2 panel externalizes the new GBL\_REGION field for customer overrides.
- 3 New global RTE\_\* parameters to support the SmartCloud Analytics - Log Analysis (SCA-LA) and Tivoli Enterprise Portal (TEP) integration parameters.
  - RTE\_SCALA\_ENABLED\_FLAG
  - RTE\_SCALA\_HOST

- RTE\_SMFID
- Parameter RTE\_KCIJPSYS\_INCLUDE\_STEP\_KDS provides the flexibility to exclude generating the ASMKDS KDSMTAB1 LU62 logmode table assembly and link step in the xKANSAMU(KCIJPSYS) system copy and processor job.
- Parameter RTE\_X\_STC\_INAPF\_MEMBER\_NAME defines the optional INAPF name (default is IBMAPF). Override the INAPF member name in the RTE\_X\_STC\_INAPF\_MEMBER\_NAME parameter if the default IBMAPF member needs to cater to multiple versions of the product started tasks in a given LPAR.
- RTE\_X\_STC\_START\_MEMBER\_NAME and RTE\_X\_STC\_STOP\_MEMBER\_NAME parameters define optional composite START/STOP PROC names (default is IBMSTRT/IBMSTOP, respectively). Override the /S, /P composite STCs if the default IBM\* names need to cater to multiple versions of the product started tasks in a given LPAR.
- KI2\_ICnn\_\* parameter is for OMXE for IMS, support new KI2\_IC\* I/CF profile parameters to support I/CF Console Commands or the I/CF Trap Command parameters generated in the OMXE IMS RKANCMU(KI2START) startup member.

### Changed default values for existing WCONFIG RTE LPAR profile parameters

- KDS\_KMS\_SDA for TEMS is set to "N" by default. Prior default was not set to any value (KDS\_KMS\_SDA was commented out in the LPAR RTE profile).
- Kpp\_AGT\_STORAGE\_MINIMUM\_EXTEND for common TEMS and agents increases the new default value to MINIMUM(384000,X) and support QUIESCE(96,X,F) and QUIESCE(99,X,C) xKANPARU(KppSYSIN) TMS:Engine startup parameters for TEMS and all Agents.
- KD2\_PFn\_HIS\_BUFSIZE for OMXE for DB2 changes Thread Near-term History (NTH) buffer size from 1024 to 2048.
- KD2\_DBnn\_PWH\_D2PWSTBP for OMXE for DB2 changes default of Performance Warehouse bufferpool from BP0 to BP32K.
- KD2\_PFn\_HIS\_LOGn for OMXE for DB2 changes default Thread NTH VSAM log datasets from 3 VSAMs to 7 VSAMs (RKD2VSnn).
- Comments updated in the KM5\_\* RTE profile to add note about Non-Sysplex RTEs.
- KMV\_X\_AGT\_STORAGE\_LIMIT\_PRIMARY for OMEGAMON DE on z/OS increases OMEGAVIEW LIMIT() primary storage request from 17,P to 19,P.

### New WCONFIG(Kpp\$\*) override imbeds

- New WCONFIG(KCI\$SLOG) for RKLVSNA/RKLVLOG. TMS:Engine-based product started tasks (TEMS, CUA, Agents) will remove these DDs from the product started tasks, and instead, PARMGEN will replace the DDs with a customer-controlled WCONFIG imbed called WCONFIG(KCI\$SLOG) that gets imbedded during \$PARSE\* job.
- New WCONFIG(Kpp\$SDMP) SYS%DUMP DD - TMS:Engine-based product started tasks (TEMS, CUA, Agents) that currently have a SYSUDUMP DD, will remove it from the product started tasks that currently hardcode a SYSUDUMP DD, and instead, PARMGEN will replace as a customer-controlled WCONFIG imbed called WCONFIG(Kpp\$SDMP) (one per product). Current products that have a hardcoded SYSUDUMP DD are:
  - TEMS (KDS)
  - OMEGAMON XE for Storage CUA (KDF)
  - OMEGAMON XE for IMS (Classic KOI STC per IMS subsystem and CUA KI2)
  - OMEGAVIEW (KMV)
  - OMEGAMON XE on z/OS Classic KOM and CUA KM2
  - OMEGAMON XE for Mainframe Networks CUA (KON).
- New WCONFIG(KDF\$PSCN) imbed for MSR monitoring and dataset monitoring devices options member in xKANPARU(KDFDSCIN).
- New WCONFIG(KR%\$PCON) imbeds for Tivoli Advanced Storage Agents' (KRG KRH KRJ KRK KRN KRV KRW) product-specific imbed to KR%CONFG runtime members (IRAMAN startup members).

## Updated WCONFIG(Kpp\$\*) Override Imbeds

- WCONFIG(KMQ\$CUSR) imbed to W/RKANCMU(KMQUSER) for OMXE for Messaging, updated the KMQUSER imbed comments to highlight the importance of supported dynamic commands.
- WCONFIG(KDS\$PENV/KAG\$PENV/KDF\$PENV/KM2\$PENV) imbed to W/RKANPARU(KppENV) for common KDS TEMS/common KAG\* Agents/OMXE Storage and z/OS CUAs (KDF/KM2), updated the KppENV imbed to add the enabled parameter “KDE\_ALLOWNETIDMISMATCH=1” by default.
- WCONFIG(KDS\$PENV) imbed to W/RKANPARU(KDSENV) for common KDS TEMS, updated the TEMS KDSENV imbed to add the recommended enabled parameters “MAX\_CTIRA\_RECURSIVE\_LOCKS=150” and “KDEP\_SERVICETHREADS=63” by default.
- WCONFIG(KD5\$PENV) imbed to W/RKANPARU(KD5ENV) for OMXE for DB2, updated the KD5ENV imbed to add highlighted comments and placeholder “CTIRA\_SUBSYSTEM\_ID” parameter to feature advanced Agent implementation when there are multiple instances of the OMXE DB2 Agent in a given LPAR reporting to the same TEMS.

## New PARMGEN WK\* Members or Jobs

- WKANSAMU(KCIJPCOL) PDCOLLECT tailored job is a new diagnostic job created by PARMGEN to collect diagnostic information. You can select the new job on the PARMGEN Utilities menu.
- WKANSAMU(KCIJPHRC) HRECALL sample tailored job is a new utility job created by PARMGEN to help recall the RTE datasets.
- xKANPARU(KppCONFIG) is new runtime members file-tailored by PARMGEN for the Tivoli Advanced Storage Agents' (KRG KRH KRJ KRK KRN KRV KRW) IRAMAN startup members. Prior to this enhancement, the product FMIDs delivered default members that required customers to manually copy to RKANPARU dataset and manually add “HLQ=” customization.
- WCONFIG(\$MBDINDX) is a new WCONFIG imbed table listing in \$MBDINDX (extracted from WCONFIG(\$JOBINDX)); both index members accommodate the new KCI\$SLOG and Kpp\$SDMP log-dump-related override imbeds, as well as the new Kpp\$PCON imbeds to the Tivoli Advanced Storage Agents' xKANPARU(KppCONFIG) IRAMAN startup runtime members

## Changed PARMGEN WCONFIG or WK\* Members or Jobs

Changed PARMGEN profiles and jobs:

- IKANSAMU(KCI\$RTEV)/&gbl\_user\_jcl(KCI\$RTEV) &gbl\_user\_jcl(&rte\_name) for all products: updated the Variables profile resolution member with additional best practice user symbols (STGDEBUG\_\*, TCP\_STC, etc). Note that existing &gbl\_user\_jcl(&rte\_name) variables profile is preserved, so compare the IBM-supplied PARMGEN variables profile in IKANSAMU(KCI\$RTEV) or &gbl\_user\_jcl(KCI\$RTEV) with your user customized variables RTE profile in &gbl\_user\_jcl.
- WCONFIG(\$PARSE\*) for all products: new WSUPER step added in all \$PARSE\*-related jobs.
- WCONFIG(\$PARSE\*) for all products: significant batch job run elapsed time improvement.
- WCONFIG(\$PARSE\*) for OMXE for DB2: automate generating the SUBMIT command for the appropriate CRTDB2\* job depending on the KD2\_OMPE\_USE\_MODEL parameter setting.
- WCONFIG(KCIJPVAL) for common TEMS and agent exploiters of ICSF: PARMGEN validation job detects if ICSF load library is not set. This is required starting from ITM630.
  - By default this parameter is commented out. You must customize this parameter in WCONFIG(\$GBL\$USR).
  - Additional WCONFIG(KCIJPVAL) validation checking added:
    - VALIDATE 1: If the default GBL\_DSN\_SYS1\_\* libraries are using default value SYS1.\* dataset names, provide a warning when customer submits the optional KCIJPSYS system copy job.
    - For all PARMGEN jobs, enabled the customizable GBL\_REGION WCONFIG(&rte\_name) and WCONFIG(\$GBL\$USR) profile parameter in all PARMGEN KCIJ\* jobs and all PARMGEN product-specific jobs.
    - For all PARMGEN profiles and jobs, added z/OS and ISPF environment information in PARMGEN jobs and READMEs for reference.

Changed runtime members:

- WKANPARU(KppENV) for common TEMS and agents: added new CTIRA\_SYSTEM\_NAME and CTIRA\_HOSTLOC parameters in the TEMS and agents' xKANPARU(KppENV) runtime members. By default, the parameters are generated commented out by the PARMGEN \$PARSE\* job. If the value of RTE\_SCALA\_ENABLED\_FLAG is changed from N to Y in the WCONFIG(&rte\_name) LPAR RTE profile, the CTIRA\_\* parameters in the KppENV runtime members are generated enabled(uncommented out).
- WKANPARU(KppSYSIN) for common TEMS and agents: added QUIESCE(96,X,F) and QUIESCE(99,X,C) parameters to all TEMS and agent xKANPARU(KppSYSIN).
- WKANPARU(KppSYSIN) for common agents: for any agents that run in their own agent address space that do not currently default its MINIMUM() storage setting to 384000, the PARMGEN configuration default is now MINIMUM(384000,X) in xKANPARU(KppSYSIN).
- xKANPARU(KppPRD00) for Tivoli Advanced Storage agents: these runtime members are no longer generated in the newer versions of the respective KR\* TEMA-based Agents.
- OMEGAMON DE on z/OS: Support MV-only no TEMS/no KWO configuration.
  - WKANPARU(KMVINIT): added checking to detect if related 3 parameters should be generated based on TEMS connect flag.
  - WKANCMDU(KMVSTKMV): added checking to detect if the KMV agent startup should be generated based on TEMS connect flag.
  - WCONFIG(&rte\_name): updated comment section in the 2 key parameters that control these flags: KMV\_TEMS\_LOCAL\_CONNECT\_FLAG and KMV\_OMEGAVIEW\_II\_ENTERPRISE
- OMXE for CICS Classic STC in xKANSAMU: increased the default REGION size from 4096K to 0M, and provided externalization support to customize REGION via GBL\_REGION parameter.
- All product started tasks, KCIJ\* PARMGEN composite jobs, product-specific utility jobs in xKANSAMU: provided externalization support to customize REGION via new GBL\_REGION parameter.
- All product started tasks in xKANSAMU: added "Last \$PARSE\* run refresh: TEMS version @ FMID HKDS630" header.
- All product started tasks in xKANSAMU: modified PROCSTEP with more function-centric names instead of the started task name.
- All product started tasks in xKANSAMU: added support for customizable log and dump-related product started task DDNAMEs.
  - RKLVSNAp/RKLVL0G: TMS:Engine-based product started tasks (TEMS, CUA, Agents) will remove these 2 DDs from the product started tasks, and instead, PARMGEN will replace as a customer-controlled WCONFIG imbed called WCONFIG(KCI\$SLOG).
  - SYS%DUMP DD: TMS:Engine-based product started tasks (TEMS, CUA, Agents), that currently have a SYSUDUMP DD, will remove it from the product started tasks that currently hardcode a SYSUDUMP DD, and instead, PARMGEN will replace as a customer-controlled WCONFIG imbed called WCONFIG(Kpp\$SDMP). There will be one WCONFIG imbed per product.
- WKANSAMU(KppDFINL): updated the "Perform post configuration steps" READMEs.
- WKANSAMU(KCIDFINL) "KCI" step 2 and step 3 for all products: added new tables for the complete list of product started tasks and product VTAM elements (major node and APPLIDs) categorized by product and suite.
- WKANSAMU(KCIDFINL) for all products: added a complete list of all product VTAM node and APPLIDs table in the "POSTCFG" on-line README.
- WKANSAMU(KCIDFINL) for all products: added post-configuration step 12 to highlight the importance of dynamic commands.
- WKANSAMU(KAGDFINL) for common Agent post-configuration README: added new table for the complete list of products that configure the ITM persistent datastore (short-term, NTH).
- WKANSAMU(KD5DFINL) for OMXE for DB2: added new post-configuration step 7 for RRSaF.
- WKANSAMU(KD5DFINL) for OMXE for DB2: added new post-configuration steps 10 and 11 to highlight the importance of dynamic commands.
- WKANSAMU(KI5DFINL) for OMXE for IMS: added new post-configuration step 12 to highlight the importance of dynamic commands.

- WKANSAMU(KMQDFINL) for OMXE for Messaging: added post-configuration step update to step 1b to highlight the importance of dynamic commands.
- WKANSAMU(KOBDFINL) for enhanced 3270UI: added new steps to highlight the enhanced 3270UI NTH post-configuration step.
- WKANSAMU(KM5DFINL) for OMXE on z/OS: added new step to highlight the enhanced 3270UI NTH post-configuration step.
- WKANSAMU(KGWDFINL) for OMXE for CICS TG: added new step to point to the technote (if TxnMonitor Exit (kgw\_monitor.jar) monitoring values need to be changed post-install).
- WKANSAMU(KD5DFINL) for OMXE for DB2: added post-configuration step for dynamic START/STOP of Object Analysis.

### Changed and new PARMGEN workflow UI panels

PARMGEN Workflow UI panel changes:

- KCIPQPGW “ Welcome to the z/OS Installation and Configuration Tools for IBM Tivoli Management Services (TMS) dependent products”: updated SMC panel to add "try" and the new suites (OMEGAMON Performance Management Suite, IBM Service Management Suite for z/OS).
- “PARAMETER GENERATOR (PARMGEN) WORKFLOW - PRIMARY OPTION MENU”: clarified KCIJPCFG option.
- “SET UP PARMGEN WORK ENVIRONMENT FOR AN RTE (2 OF 3)” KCIP@PG2 panel:
  - Added new GBL\_REGION field.
  - Added logic to only display the GBL\_INST\_HILEV field only if this is an ICAT to PARMGEN conversion.
- "CUSTOMIZE PARMGEN CONFIGURATION PROFILE MEMBERS": clarified option labels.
- "SUBMIT BATCH JOBS TO COMPLETE PARMGEN SETUP": clarified KCIJPUSP/KCIJPUSS options.
- UTILITIES: clarified KCIJPW1R function (equivalent to KCIJPMTY and KCIJPW2R - handy when deleting products from an RTE).
- KCIP@SEC panel: added note about the ICAT to PARMGEN conversion consideration.

## What's new in OMEGAMON products (previous updates)

The topics in this section summarize the enhancements and changes in the OMEGAMON products.

### OMEGAMON version 5.5.0 family products (3Q17 release)

Most products of the OMEGAMON family has gone up to version 5.5.0 or 7.5.0 in this release with new features and enhancements. Find the what's new topics for the products of interest in the following table. The what's new topics for the IBM Service Management Suite for z/OS 1.5.0, IBM OMEGAMON Performance Management Suite for z/OS 5.5.0, IBM OMEGAMON for z/OS Management Suite 5.5.0, NetView for z/OS agent version 6.2.1, and the System Automation Monitoring agent version 3.5.0 are also included in the table for the Service Management Suite users' reference as these products are all configured by PARMGEN.

<b>Product name</b>	<b>What's new topic</b>
IBM® OMEGAMON for CICS on z/OS version 5.5.0	<a href="#">What's New in V5.5.0</a>
Tivoli IBM® OMEGAMON for DB2 Performance Expert on z/OS version 5.4.0	<a href="#">What's new in OMEGAMON for Db2 Performance Expert</a>
Tivoli IBM® OMEGAMON for DB2 Performance Monitoring on z/OS version 5.4.0	<a href="#">What's new &amp; PDFs</a>
IBM® OMEGAMON for IMS on z/OS version 5.5.0	<a href="#">What's new in IBM OMEGAMON for IMS on z/OS 5.5.0</a>

Product name	What's new topic
IBM® OMEGAMON for JVM on z/OS version 5.4.0	<a href="#">What's new in IBM OMEGAMON for JVM on z/OS V5.4.0</a>
IBM® OMEGAMON for Messaging on z/OS version 7.5.0	<a href="#">What's new in IBM OMEGAMON for Messaging on z/OS</a>
IBM® OMEGAMON for Networks on z/OS version 5.5.0	<a href="#">What's New in IBM OMEGAMON for Networks on z/OS</a>
IBM® OMEGAMON for Storage on z/OS version 5.4.0	<a href="#">IBM OMEGAMON for Storage on z/OS</a>
IBM® OMEGAMON for z/OS version 5.5.0	<a href="#">What's New in IBM OMEGAMON for z/OS</a>
IBM® NetView for z/OS Agent version 6.2.1	<a href="#">Enterprise Management Agent Changes</a>
System Automation Monitoring Agent version 3.5.0	IBM Tivoli System Automation for z/OS 3.5.0 is no longer published. See <a href="#">IBM Z System Automation documentation</a> .
IBM Service Management Suite for z/OS 1.5.0	<a href="#">What's new in V1.5.0</a>
IBM OMEGAMON Performance Management Suite for z/OS 5.5.0	IBM OMEGAMON Performance Management Suite for z/OS 5.5.0 is no longer published.
IBM OMEGAMON for z/OS Management Suite 5.5.0	IBM OMEGAMON for z/OS Management Suite 5.5.0 is no longer published.

## What's new in the OMNIMON Base (previous updates)

The topics in this section introduce new features and enhancements in OMNIMON Base.

### OMNIMON Base Version 7.5.0 PTF UA98944 for APAR OA57133

APAR OA57133 provides OMNIMON Base Version 7.5.0 password phrase (passphrase) and multi-factor authentication (MFA) enablement support.

This enhancement enables OMEGAMON 3270 (Classic) users to log on using passphrase and MFA credentials. This support is in addition to the existing password logon capability provided in both the OMEGAMON Classic and OMEGAMON enhanced 3270 user interface. Passphrase support also enables the use of MFA. MFA is typically a six-digit volatile numeric token that is paired with a password or passphrase value to facilitate authentication. This enhancement replaces the need for a user-customized assembler module (for example, SAMPLIB security exit) which generally defines the SAF security class for OMEGAMON Classic started tasks.

**Note:** The manual configuration procedures required for this APAR will be superseded by future updates to the PARMGEN configuration tool.

#### Passphrase support in OMEGAMON Classic

A password is eight bytes or less. A passphrase is from nine to 100 bytes long. One problem with supporting a passphrase is the size of a 3270 screen, which is predominantly 80 bytes wide. Therefore, the OMEGAMON logon screen requires a second line of input field to support long passphrase values. The second line value is effectively concatenated onto the end of the first line input field. This is the mechanism in use by the OMEGAMON enhanced 3270 user interface. However, in some cases this is not easily adaptable to the Classic OMEGAMON 3270 logon screens. At any given site, it is possible that multiple programs automate the logon process to the classic products. Often these programs rely on a logon screen that provides static placement of keywords and input fields in order to populate them. The OMNIMON Base passphrase implementation anticipates this by supporting multiple passphrase support settings, as follows:

##### **PARTIAL**

Passphrase PARTIAL means that the passphrase value will occupy one line and input field on the screen, 34 bytes or greater in length. The length of the one field will depend on the screen width setting. In this case, the existing GROUP and NEW PASSWORD fields remain unchanged on the screen. This is to avoid an

incompatibility with programs that might be parsing or populating the logon screen. Equally true, the new password field also occupies one line and input field, 34 bytes or greater in length.

## FULL

Passphrase FULL means that the passphrase value will employ a second line of input on screen, the first line being 34 bytes, and the second line being the remaining 66 bytes. Equally true, the new password field is 34 bytes long, followed by a second line of 66 bytes.

## NO (or NONE)

Passphrase NO (or NONE) means that passphrase support is not enabled.

## SECURITY CLASS in OMEGAMON Classic

Traditionally, there has been an OMEGAMON-supplied sample assembler program, usually ending with a suffix that indicates the security system (SAF) that will be utilized, for example, RACF. It is typically the responsibility of the systems programmer (OMEGAMON administrator) to modify this program, then assemble it and link it. Its purpose is to define the SAF class ID (the default is OMCANDLE), but it also performs the authentication of the user ID and password entered during logon.

Passphrase support implementation choices for this enhancement would have either forced every customer to adopt a new replacement SAMPLIB (security exit) program, or, relocated the Security Class definition to somewhere else. The latter was chosen. For this reason, this enhancement renders the SAMPLIB (security exit) program obsolete. The Security Class definition is now a startup parameter to the primary OMEGAMON logon program, KOBVTAM.

## SAF Application ID in the OMEGAMON Classic

The OMEGAMON Security Exit program defines the SAF Application ID (ApplID) that is used on the various RACROUTE SAF calls. The SAF Application ID field is defined as M\$APPL in the sample security exit program. By default, its value is CANDLE. This enhancement externalizes this value as a parameter. The SAF ApplID is now also a startup parameter to the primary OMEGAMON logon program, KOBVTAM.

## SAF Application ID in the OMEGAMON enhanced 3270 user interface

The CANDLE value continues to be used in the OMEGAMON enhanced 3270 user interface, and there is no mechanism to externalize it. This enhancement updates the OMEGAMON enhanced 3270 user interface to support a new environment variable that can be used to change the default SAF Application ID.

## Configuration changes

The following OMEGAMON components are affected by this enhancement and require manual configuration changes to enable or exploit the passphrase and multi-factor authentication (MFA) capability provided with this enhancement:

- [“OMEGAMON for z/OS Classic V5.5.0” on page 1510](#)
- [“OMEGAMON for CICS Classic V5.5.0” on page 1511](#)
- [“OMEGAMON for IMS Classic V5.5.0” on page 1512](#)
- [“OMEGAMON for Db2 Classic V5.4.0” on page 1513](#)
- [“OMEGAMON enhanced 3270 user interface V7.5.0” on page 1513](#)

Configuration steps for each of these components are provided, as follows.

**Important:** You should back up the results of any manual configuration changes as subsequent PARMGEN configuration activity might remove your changes and require reinstatement. Future PARMGEN support will remove the need for manual backup and configuration procedures.

## OMEGAMON for z/OS Classic V5.5.0

To configure OMEGAMON for z/OS Classic for passphrase support, you must modify the OMEGAMON CLASSIC REALTIME COLLECTOR Started Task JCL and add a new PDS member in your `&rhilev.&rte.RKANPARU` data set.

The OMEGAMON CLASSIC REALTIME COLLECTOR started task JCL is stored in the `&rhilev.&rte.RKANSAMU` data set and subsequently copied into a PROCLIB data set. The started task JCL should look similar to the following excerpts:

```

//*****
//* NAME: xxxxm2rc OMEGAMON CLASSIC REALTIME COLLECTOR
//*
...
//OMCI PROC RGN=OM,
// TIM=1440,
// SYS=sysa,
// RHILEV=MYHILEV1,
// BASEHLEV=MYHILEV2,
// USERPARU=MYHILEV3,
// DOUT=X,
// APPL=OMAPPLID,
// PRTCT=, /* Change required here. See step 1. */
// PSWD=, /* Change required here. See step 2. */
// UMAX=99,
...
//STEPNAME EXEC PGM=KOBVTAM,
// REGION=&RGN,TIME=&TIM,
// PARM=('APPL=&APPL,PRTCT=&PRTCT', /* Change required here. See step 1. */
// 'PSWD=&PSWD,UMAX=&UMAX,OM=&OM', /* Change required here. See step 2. */
// 'PROD=&PROD,FSCR=&FSCR', /* Change required here. See step 3. */
// 'USER=&USR,FOLD=&FOLD',
// 'LROWS=&LROWS')
...

```

## Procedure

1. Remove the PRTCT keyword from both the EXEC PARM string and the PROC string. The PRTCT keyword is being deprecated.
2. Remove the PSWD keyword from both the EXEC PARM string and the PROC string. The PSWD keyword is being deprecated.
3. Add the following keyword to the PARM string: `MEMBER=memname`, where *memname* is the name of the PDS member that you create in the next step. The use of KOBVTAM as the member name is recommended.
4. Create a new member in the `&rhilev.&rte.RKANPARU` data set whose name matches that which is referenced in the PARM string keyword `MEMBER=memname` (for example, KOBVTAM), and add the following three lines:

```

PASSPHRASE=passphrase
SECCLASS=secclass
SAFAPPL=safapplid

```

where:

### ***passphrase***

Specifies the passphrase support setting, as follows:

- PARTIAL - Enable partial passphrase.
- FULL - Enable full passphrase.
- NO - (default) Passphrase support is not enabled.

For more information about this setting, see [“Passphrase support in OMEGAMON Classic” on page 1509](#).

### ***secclass***

Specifies the name of your security class for OMEGAMON. The default value is OMCANDLE and is used to permit or deny user access during OMEGAMON logon. For more information, see [“SECURITY CLASS in OMEGAMON Classic” on page 1510](#).

### ***safappl***

Specifies the name of the optional SAF Application ID for OMEGAMON. The default value is CANDLE. For more information, see [“SAF Application ID in the OMEGAMON Classic” on page 1510](#)

To configure OMEGAMON for CICS Classic for passphrase support, you must modify an existing PDS member in your *&rhilev.&rte*.RKANPARU data set. In the RKANPARU data set, locate the PDS member that starts OBVTAM. The PDS member is typically named KOCVTM*nn*. Its contents should look similar to the following:

```
START OBVTAM APPL=OMAPPLID,  
LROWS=9999,  
UMAX=99,  
FOLD=Y,  
USER=/I,
```

Add the following three lines anywhere in the parameter definition:

```
PASSPHRASE=passphrase,  
SECCLASS=secclass,  
SAFAPPL=safapplid,
```

where:

#### ***passphrase***

Specifies the passphrase support setting, as follows:

- PARTIAL - Enable partial passphrase.
- FULL - Enable full passphrase.
- NO - (default) Passphrase support is not enabled.

For more information about this setting, see [“Passphrase support in OMEGAMON Classic” on page 1509](#).

#### ***secclass***

Specifies the name of your security class for OMEGAMON. The default value is OMCANDLE and is used to permit or deny user access during OMEGAMON logon. For more information, see [“SECURITY CLASS in OMEGAMON Classic” on page 1510](#).

#### ***safappl***

Specifies the name of the optional SAF Application ID for OMEGAMON. The default value is CANDLE. For more information, see [“SAF Application ID in the OMEGAMON Classic” on page 1510](#)

### **OMEGAMON for IMS Classic V5.5.0**

**Important:** Support for passphrase and multi-factor authentication in OMEGAMON for IMS requires PTF UA98947 for APAR OA57125.

To configure OMEGAMON for IMS Classic for passphrase support, you must modify an existing PDS member in your *&rhilev.&rte*.RKANPARU data set. The PDS member is typically named KOIVTM*nn*. Its contents should look similar to the following:

```
START OIVTAM,  
DATA=YES,  
LROWS=9999,  
TIMEOUT=30,  
USER=/C,  
FOLD=Y,  
UMAX=99  
...
```

Add the following three lines anywhere in the parameter definition:

```
PASSPHRASE=passphrase,  
SECCLASS=secclass,  
SAFAPPL=safapplid,
```

where:

#### ***passphrase***

Specifies the passphrase support setting, as follows:

- PARTIAL - Enable partial passphrase.
- FULL - Enable full passphrase.
- NO - (default) Passphrase support is not enabled.

For more information about this setting, see [“Passphrase support in OMEGAMON Classic” on page 1509](#).

#### ***secclass***

Specifies the name of your security class for OMEGAMON. The default value is OMCANDLE and is used to permit or deny user access during OMEGAMON logon. For more information, see [“SECURITY CLASS in OMEGAMON Classic” on page 1510](#).

#### ***safappl***

Specifies the name of the optional SAF Application ID for OMEGAMON. The default value is CANDLE. For more information, see [“SAF Application ID in the OMEGAMON Classic” on page 1510](#)

### **OMEGAMON for Db2 Classic V5.4.0**

To configure OMEGAMON for Db2 Classic for passphrase support, you must modify an existing PDS member in your RKD2PAR data set.

In the RKD2PAR data set, locate the PDS member that starts OBVTAM. The PDS member is typically named RVTMnnnn. Its contents should look similar to the following:

```
START OBVTAM APPL=OMAPPLID,  
LROWS=9999,  
UMAX=99,  
FOLD=Y,  
USER=/I,  
...
```

Add the following three lines anywhere in the parameter definition :

```
PASSPHRASE=passphrase,  
SECCLASS=secclass,  
SAFAPPL=safapplid,
```

where:

#### ***passphrase***

Specifies the passphrase support setting, as follows:

- PARTIAL - Enable partial passphrase.
- FULL - Enable full passphrase.
- NO - (default) Passphrase support is not enabled.

For more information about this setting, see [“Passphrase support in OMEGAMON Classic” on page 1509](#).

#### ***secclass***

Specifies the name of your security class for OMEGAMON. The default value is OMCANDLE and is used to permit or deny user access during OMEGAMON logon. For more information, see [“SECURITY CLASS in OMEGAMON Classic” on page 1510](#).

#### ***safappl***

Specifies the name of the optional SAF Application ID for OMEGAMON. The default value is CANDLE. For more information, see [“SAF Application ID in the OMEGAMON Classic” on page 1510](#)

### **OMEGAMON enhanced 3270 user interface V7.5.0**

The OMEGAMON enhanced 3270 user interface reads the *&rhilev.&rte*.RKANPARU PDS member KOBENV to obtain the SAF security configuration values for authentication and authorization. The new SAF Application ID environment variable will also be read from this file. Following is an example of the environment variables statement that can be added to KOBENV. The default value is CANDLE. As a result, the following statement should only be added to change the default:

```
KOB_SAF_APPLID=safapplid
```

where:

***safapplid***

Specifies the name of the optional SAF Application ID for OMEGAMON. The default value is CANDLE. For more information, see [“SAF Application ID in the OMEGAMON enhanced 3270 user interface” on page 1510](#).

## What's new in the OMEGAMON enhanced 3270 user interface (previous updates)

The topics in this section introduce new features and enhancements to the OMEGAMON enhanced 3270 user interface.

**Tip:** You can also access a list of the latest features and enhancements using the online help in the product, by expanding the **HELP** menu and selecting **W Whats New**.

### OMEGAMON enhanced 3270 user interface V7.5.0 PTF UA93322 (3Q17)

OMEGAMON enhanced 3270 user interface 7.5.0 PTF is UA93322 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) 7.5.0:

#### Situation Editor enhancement

A more user-friendly way of editing the formula of a situation via the Situation Formula workspace (KOBSEDPA). The formula is displayed in the workspace as a set of rows and columns. Each column is the name of a monitoring system attribute or the name of another situation. When you edit the cells by typing the E action character in the cell, a series of pop-up windows will display with the following items to choose from:

- Available tables and columns
- Available functions (VALUE, AVERAGE, etc.)
- Available operators (EQ, NE, etc.)
- Available values (strings, numbers, and ENUM values.)

### OMEGAMON enhanced 3270 user interface PTF UA83356 for APAR OA51564

APAR OA51564 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA51564 (PTF UA83356):

#### Situation Editor

You can use the Situation Editor to create, view, and edit situations (including the formula, distribution, expert advice, action, and until conditions) that can monitor important conditions in your environment. Each situation monitors your environment constantly by testing a formula at time intervals that you set up, for example, every 5 minutes. You can view the overall status of your environment in the Situation Status tree. Type / to select option rows. Move between areas in the Situation Editor by selecting a tab on top.

Some screens contain highlighted push buttons, through which you can access additional Situation Editor features.

#### Object Editor

You can use the Object Editor to organize managed systems and situations into name groups which you can reference in distribution lists.

The tree shows the types of object groups that are available and groups that have been created.

There are 2 types of groups available to be created.

### Managed System

Any set of managed systems that are related, such as business function or by geography, can be organized into a managed system group for assigning to situation distributions. The tree lists all available managed system types including All Managed Systems for creating managed system groups that combine multiple managed system types.

### Situation

For a set of frequently distributed situations, you can create a situation group to save time and ensure consistency in applying your best practices.

**Note:** Situation groups can be added to other situation groups.

### Security Requirements

The new Situation Editor and Object Editor functions that are introduced in this PTF are disabled by default due to possible performance impact of certain situations. The following security resource profiles must be defined for these editors.

- **KOBUI.ADMIN.SITEDITOR**
- **KOBUI.ADMIN.OBJECTEDITOR**
- **O4SRV.\*\***

Use combinations of read, update, or none for the profiles to control the access to the editors.

- To view the editors, the users must have either read or update permission to the corresponding editor profiles (**KOBUI.ADMIN.SITEDITOR** for the Situation Editor and **KOBUI.ADMIN.OBJECTEDITOR** for the Object Editor). Users with none permission to the profiles are not able to access the editors.
- To save updates in the editors, the users must have read or update permission to the **O4SRV.\*\*** profile, as well as either read or update permission to the corresponding editor profiles. Users with none permission to the **O4SRV.\*\*** profile are not able to save updates in the editors.

## OMEGAMON enhanced 3270 user interface PTF UA82170 for APAR OA50563

APAR OA50563 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA50563 (PTF UA82170):

### Memory Display/Zap workspace

You can display or modify the memory within any address space on a system where an OMEGAMON on z/OS agent connecting to the selected HUB TEMS is running. To list memory, select the Memory option from the enhanced 3270UI View pull-down menu (fastpath V.M). The Memory Display/Zap workspace is displayed. This workspace can also be invoked from another workspace in the enhanced 3270UI. To invoke this panel in context, the ASID and ADDRESS variables must be set before invoking the Memory Display/Zap workspace via the ACTION statement in the callers' workspace. Both the ASID and Address fields must be integer values when the Memory Display/Zap workspace is invoked.

### The new first workspace after log in

The new first workspace is a tabbed dialog from which you can choose the tab that you want to see first. You can choose the first tab by using **Edit > Preferences**, or invoking **Help > What's New**. By default, the first tab shows workspace KOBSEVTS.

The first tab shows information about active situations that are running in the connected Hub TEMS. If the OMEGAMON Dashboard edition is installed in the e3270UI address space, the situations are displayed as a status tree instead of a simple summary. The status tree shows historical information of each situation so that you can assess the overall health situation from one screen.

Other tabs display information of different OMEGAMON agents. Place your cursor on the tab and press Enter to enter the tab. If you have the 3270 emulator configured for mouse operations, double-click the tab that you want to enter.

## OMEGAMON enhanced 3270 user interface PTF UA80299 for APAR OA49686

APAR OA49686 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA49686 (PTF UA80299):

### Product support

New support has been added for the following products:

- OMEGAMON for JVM on z/OS
- OMEGAMON for Messaging on z/OS: IBM Integration Bus Monitoring agent

### KOBSTART alternate workspace

The OMEGAMON Products workspace (KOBSEVTS, which displays events) is a useful alternative to the existing Enterprise Summary workspace (KOBSTART) as the first workspace when you log on. You can select this workspace as your initial workspace with the following steps:

1. Click on **E** (Edit)
2. Click on **P** (Preferences)
3. Click on the **Session/Logon** tab
4. Select one of the following options:
  - Change "First workspace to be displayed" to KOBSEVTS
  - Click on "Help" and follow instructions to make the currently viewed tab of the workspace be your new first workspace

### User filter support

User filter support has been expanded to include all subpanels in a workspace.

### Performance improvements

APAR OA49686 (PTF UA80299) introduces the following performance improvements for environments where the ITM installation contains many distributive systems:

- Much less data is requested and processed when performing a registry refresh
- CPU load reduction in Hub TEMS and TOM
- TCP traffic volume reduction between the TOM, DRA address spaces, and Hub TEMS
- Performance data availability improvement in TOM

## OMEGAMON enhanced 3270 user interface PTF UA76751 for APAR OA46867

APAR OA46867 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) with APAR OA46867 (PTF UA76751):

### Concurrent user sessions

Up to 100 concurrent enhanced 3270 user interface sessions are supported.

### Support for non-APL emulators

There are new options for running emulators with limited or no APL characters, and a Screen Test for determining which APL characters are supported.

### BACK and HOME buttons

For enhanced navigation, the BACK and HOME buttons are available on every workspace.

### On-screen indicator for off-screen threshold condition

For enhanced problem determination, the highest severity off-screen threshold condition is indicated by the color of the left or right arrow.

### Ability to cancel enhanced 3270 user interface users

If correct SAF authorizations are in place, users can be selectively cancelled from the list shown in Tools -> Active 3270 Users.

### **Product table and attribute displays**

Creating new workspaces is facilitated by Object Definition Interchange (ODI) support, which lists products, tables and column definitions that can be used in QUERY statements.

### **Filter indications**

Filters icons are shown on-screen in the column heading as Green (Defined) or Yellow (Active), to indicate if all data rows in the subpanel are displayed. The icons are also zoom-selectable for editing.

## **OMEGAMON enhanced 3270 user interface V7.3.0**

### **Enhanced 3270UI near-term history display**

The Enhanced 3270UI now supports the display of near-term history collected by OMEGAMON® XE and IBM® Tivoli® Monitoring agents. Near-term history display provides the ability to investigate problems in the recent past. Security authorization checks have been extended to include access and updates to near-term history collection.

If your security implementation is configured to deny access to undefined SAF resources by default, you must update your configuration to secure near-term history (NTH) configuration actions. To secure history updates, the O4SRV.\*\* resource must be added to either the global security class (RTE\_SECURITY\_CLASS) or the query class (KOB\_SAF\_QUERY\_CLASS\_NAME) if it is used. To secure access to the near-term history workspaces, the KOBUI.ADMIN.DEFINEHISTORY.<hub name> resource must be added to the security class used to control user interface interactions such as navigation.

To enable collection of NTH data, you must allocate data sets to store the collected data, configure maintenance of those data sets, and configure what data is collected.

### **Dynamic hub switching**

You can now dynamically specify which hub you want to view data from. Previously, you had to modify the user profile to change hubs. Now you can switch hubs from the interface without modifying the profile.

### **Multi-hub support**

You can use the multi-hub support feature to select a secondary hub monitoring server connection.

### **Continuous operation**

The address space no longer needs to be recycled when an agent is upgraded.

### **Support for IPv6**

Support for IPv6 has been added to the existing IP capability, enabling configurations that employ IPv4 only, IPv6 only, or mixed IPv4 and IPv6.

### **Enhanced 3270UI embedded data**

The Enhanced 3270UI embedded-data feature can be used to bring relevant data from other products into the workspace of the hosting product. The embedded-data feature imports data from other products in a seamless manner that can enable the user to navigate in context directly to other product workspaces.

### **New user preference options**

- You can choose whether your tab key can be used to move between action bar options and also whether it can be used to move to and between push buttons.
- You can configure various history configuration settings.

### **Display of alias commands**

You can use the **View** menu to see a list of Alias commands that can be used on the action and command lines.

## **OMEGAMON enhanced 3270 user interface V7.0.0 Interim Feature 1 (APAR OA42127)**

APAR OA42127 introduces new enhancements since the previous version.

The following enhancements have been made to the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) for OMNIMON Base V7.0.0:

- Security authorization checks have been extended and enhanced. For more information, see [“Security” on page 901](#).
- User preferences can be customized by using the User Profile Member workspace. For more information, see [“Customizing a user profile” on page 937](#).
- You can use the new K0BSITEC workspace to display IBM® Tivoli® Monitoring Situations status information in the enhanced 3270UI. The status information is similar to the information provided by the Tivoli® Enterprise Portal Situation Event Console, that is, situation status for current situations events and situation event history. For more information, see [“Customizing K0BSITEC as the initial workspace” on page 939](#).
- Workspaces are introduced to support viewing and browsing the Runtime environment (RTE). For more information, see [“Runtime environment viewing” on page 973](#).
- Workspace source can be viewed and browsed. For more information, see [“Viewing a workspace source” on page 975](#)
- Cloning and customization
  - The capability to view and copy product provided workspaces, thresholds, and profiles is introduced. You modify workspaces, thresholds, and profiles by first cloning (making a copy) and then editing the copy by using a file editor such as the ISPF editor. For more information, see [“Workspace viewing and cloning” on page 943](#), [“Preparing for threshold member cloning” on page 963](#), and [“Profile viewing and cloning” on page 977](#).
  - Guidance on the customization of product provided workspaces is included. For more information, see [“Customization of product provided workspaces” on page 947](#).
- The action bar has updated menu and context-sensitive capabilities. For more information, see [“Menus” on page 908](#).
- The User Interface drawer is introduced. For more information, see [“Drawer” on page 907](#).
- Hub connectivity administration is used to validate that a requested hub Tivoli® Enterprise Monitoring Server is reachable through a TCP/IP connection during the operation of the enhanced 3270UI. For more information, see [“Hub connectivity administration” on page 981](#).

# Messages

You can review messages for the z/OS®-based components of the IBM® OMEGAMON products and Tivoli® Management Services, such as the Tivoli Enterprise Portal Server, the Tivoli Enterprise Monitoring Server, OMNIMON Base, and the Tivoli® Monitoring Services/Engine (TMS:Engine).

## Introduction to messages

This documentation includes messages for the z/OS®-based components of the IBM® OMEGAMON products and Tivoli® Management Services, such as the Tivoli Enterprise Portal Server, the Tivoli Enterprise Monitoring Server, OMNIMON Base, and the Tivoli® Monitoring Services:Engine (TMS:Engine).

*Message logging* refers to the text and numeric messages created by Tivoli® Management Services components and IBM® Tivoli® OMEGAMON® monitoring agents. These messages relay information about how the system or application is performing and can alert you to exceptional conditions when they occur. Typically, text messages relay information about the state and performance of a system or application. Messages also alert the system administrator to exceptional conditions when they occur. Consult the explanation and operator response associated with the displayed messages to determine the cause of the failure.

Messages are sent to an output destination, such as a file, database, or console screen. Messages are internationalized based on the locale of the originator. If you receive a warning or error message, you can do one of the following:

- Follow the instructions listed in the detail window of the message, if this is included in the message.
- Consult the message details in this documentation to see what action you can take to correct the problem.
- Consult the message log for message ID and text, time and date of the message, as well as other data you can use to diagnose the problem.

Trace data capture transient information about the current operating environment when a component or application fails to operate as designed. IBM® Software Support personnel use the captured trace information to determine the source of an error or unexpected condition.

This documentation contains the following types of messages:

- [“Messages for z/OS components” on page 1520](#)
- [“Messages shared by distributed and z/OS components” on page 2298](#)

[“Prefixes associated with various Tivoli® Management Services components” on page 1519](#) shows the message prefixes associated with the various components and subcomponents of the Tivoli® Management Services environment.

This table lists the prefixes associated with various Tivoli Management Services components.

Component	Subcomponent (optional)	Associated prefix
Distributed Monitoring product	None	AMX
Db2® application agent*	None	KUD*
i5/OS® agent*	None	KA4 *
IBM® Tivoli® Monitoring	Hot standby feature	KQM
	Link wizard	KJR
	Remote deployment	KDY
	Storage allocation and alert. Situations and take action commands.	KFA
	Server shutdown	KMS

Component	Subcomponent (optional)	Associated prefix
	Situation, data queues, and policies. Startup processing. Configuration errors. Global directory server.	KO4
	User interface (both the tacmd command line and displayed messages) and the import and exports of policies and situations.	KUI
Installation and Configuration	Configuration Manager or PARMGEN	KCI, KOB
	UNIX® Installation	KCI
Monitoring agents	None	KRA
MSSQL application agent*	None	KOQ*
Migration Toolkit command line and graphical user interfaces	None	AMK
OMEGAVIEW®	None	KLM, KOS, KSD
Oracle application agent*	None	KOR*
SAP application agent*	None	KSA*
Sybase application agent*	None	KOY*
Tivoli Enterprise Console®	Rules Check Utility	ECO
	Forwarding of situation updates from the TEC Event server back to the hub Tivoli® Enterprise Monitoring Server	KFAIT
Tivoli® Enterprise Monitoring Server	All platforms	KDC, KDS, KFA, KMS, KO4, KQM
	TMS:Engine (z/OS® only)	KBB, KDH, KLB, KLE, KLU, KLV, KLX
Tivoli® Enterprise Portal Server	None	KFW
Tivoli® Universal Agent	None	KUM
UNIX® OS agent*	None	KUX
Windows® OS agent*	None	KNT
<b>z/OS®-only components</b>		
Classic OMEGAMON®	None	IA, IN, LSC
OMEGAMON® Base	None	CI, CND, CS, CT, KOB, OB, OM
OMEGAMON® Enhanced 3270 User Interface	None	KOB
OMNIMON Base	Coupling facility	KCN
Persistent data store	None	KPD, KPQ
*Documented in the <i>IBM® Tivoli® Monitoring: Upgrading from IBM® Tivoli® Monitoring V5.1.2.</i>		

## Messages for z/OS® components

The Tivoli Enterprise™ Monitoring Server on z/OS® and its various subsystems (OMNIMON, TMS:Engine, and OMEGAMON® base) generate log files that contain messages and trace information. The log files contain message and trace information about the events and processing being performed. z/OS® log files provide a complete record of system activity, not just of problems. The log files are created when you start the IBM® Tivoli® Monitoring z/OS® components. “Log locations for z/OS® components” on page 1523 lists the log files created by each z/OS® subcomponent. These files are available to help you resolve problems encountered while

using the products. IBM® Software Support might request some or all of these files while investigating a problem you have reported.

When you encounter a problem, first check the messages in the log files to determine if the source is a problem in the IBM® Tivoli® Monitoring environment or with an OMEGAMON® z/OS® monitoring agent. If you determine that the problem is due to a product defect, contact IBM® Software Support. IBM® Software Support might request that you activate tracing so that the log files collect additional information needed to resolve the problem. Some of the tracing options produce large amounts of trace information. Therefore, monitor the disk or spool space when activating tracing to prevent your disk or spool from reaching capacity. Return the trace settings to the default settings after the desired trace information has been collected. For the locations of various types of logs, see [“Log locations for z/OS® components” on page 1523](#).

The messages for this product are in two formats. One format includes a single-digit component identifier with a message type and the other includes a double-digit component identifier with no message type. Both formats have the following common elements:

**www**

is the message component identifier. The usual length of a component identifier is three characters, though it can be a few as two characters or as many as five. This book includes the message identifiers in [“Message component identifiers documented in this book” on page 1521](#):

*Table 131: Message component identifiers documented in this book*

Message prefix	Components using this prefix
CI	OMEGAMON® Base
CND	OMEGAMON® Base
CSA	OMEGAMON® Base
CT	OMEGAMON® Base
ETE™	End-to-End Response Time Monitor
IA	Classic OMEGAMON®
IN	Classic OMEGAMON®
KBB	Tivoli® Management Services: Engine (TMS:Engine)
KCN	OMNIMON Base
KDH	TMS:Engine
KLB	TMS:Engine
KLE	TMS:Engine C language interface messages
KLU	Tivoli Enterprise™ Monitoring Server on z/OS® or TMS:Engine
KLV	Tivoli Enterprise™ Monitoring Server on z/OS® or TMS:Engine
KLX	Tivoli Enterprise™ Monitoring Server on z/OS® or TMS:Engine
KMV	OMEGAVIEW®
KOB	OMEGAMON® Base (Enhanced 3270 user interface), Parameter Generator (PARMGEN), or Configuration Manager
KPQ	OMEGAMON® Base (Persistent data store)
KSD	OMEGAVIEW®
LSC	Classic OMEGAMON®
OB	OMEGAMON® Base
OM	OMEGAMON® Base

**yyy**

Message number.

Other messages are in the following format:

```
wwwxyyy
```

Where:

**x**

Component identifier.

**yyy**

Message number.

**z**

One-letter message type. Some messages have this message type indicator. It can be one of the following:

- **I** for informational messages, which typically do not require administrator or operator actions.
- **W** for warning messages, which typically require actions.
- **E** for error messages, which indicate a problem that you must resolve before normal operation can continue.

In the message description, most message headings are self-explanatory (for example, **Explanation** or **System Response**). Some messages include a heading for **Severity**. Severity is sometimes defined as a number between 0 and 80, where 0 means it is unimportant and 80 means the matter requires immediate attention. This numerical value is often paired with a system programmer response heading, so that you know how to respond to the severity indicator.

Other times, Severity is expressed as one of the following values:

- **REPLY, VIEW or INFO**: indicates successful completion or attempted completion of a request.
- **ERROR**: indicates that a system action has failed to complete successfully.
- **WARNING or ALERT**: indicates that an error has occurred and offers additional details to help you correct the problem that often involves contacting IBM® Software Support.
- **ABEND**: reports a component failure that requires immediate system programmer response and usually requires running traces and collecting dumps for IBM® Software Support.
- **FATAL**: indicate a condition causing shutdown or catastrophic termination.

Messages with severity tags can sometimes be routed to different console groupings. When the Severity tag is used to describe TMS:Engine errors, the value indicates where the message will be sent. For more information, see [“TMS:Engine message route codes” on page 2387](#).

[“Log locations for z/OS® components” on page 1523](#) contains the locations of logs where distributed component messages are found:

Table 132: Log locations for z/OS® components

z/OS® component	Log location
<p>An OMEGAMON monitoring agent on z/OS</p>	<p>RKLVLOG for the monitoring agent started task is the single most helpful piece of service information for an OMEGAMON monitoring agent on z/OS. The RKLVLOG (R = runtime, KLV = the prefix associated with IBM® Tivoli® Monitoring Services:Engine or TMS:Engine) is the sysout data set or spool file that contains log and trace messages.</p> <p>These additional zSeries® log files (if available) are also useful:</p> <ul style="list-style-type: none"> <li>• The RKLVSnap sysout data set or spool file contains formatted dump output.</li> <li>• The RKPDLLOG sysout data set or spool file contains the information and error messages related to the handling of persistent data stores.</li> <li>• Some agents have other files defined to collect log and trace messages. OMEGAMON for Networks on z/OS, for example, might also use the KN3ACTCS and KN3ANMON sysout data sets or spool files to collect log and trace messages.</li> </ul> <p>Refer to your started procedures for the locations of these serviceability log files.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> OMEGAMON monitoring agent on z/OS messages are documented in the agent-specific problem determination guide.</p> </div>
<p>Tivoli Enterprise Monitoring Server on z/OS®</p>	<p>RKLVLOG for the monitoring agent started task is the single most helpful piece of service information for an OMEGAMON monitoring agent on z/OS. The RKLVLOG (R = runtime, KLV = the prefix associated with IBM® Tivoli® Monitoring Services:Engine or TMS:Engine) is the sysout data set or spool file that contains log and trace messages.</p> <p>These additional zSeries® log files (if available) are also useful:</p> <ul style="list-style-type: none"> <li>• The RKLVSnap sysout data set or spool file contains formatted dump output.</li> <li>• The RKPDLLOG sysout data set or spool file contains the information and error messages related to the handling of persistent data stores.</li> <li>• Some agents have other files defined to collect log and trace messages. OMEGAMON for Networks on z/OS, for example, might also use the KN3ACTCS and KN3ANMON sysout data sets or spool files to collect log and trace messages.</li> </ul> <p>Refer to your started procedures for the locations of these serviceability log files.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> OMEGAMON monitoring agent on z/OS messages are documented in the agent-specific problem determination guide.</p> </div> <p>Because the Tivoli Enterprise Monitoring Server on z/OS® runs under TMS:Engine just as an OMEGAMON monitoring agent on z/OS does, all logging under TMS:Engine is handled the same way, that is log and trace data are written to RKLVLLOGs and RKPDLLOGs.</p>

z/OS® component	Log location
ETE™	<p>ETE™ is a base component and does not have its own RKLVLLOG. This component writes messages to the IBM® System Display and Search Facility (SDSF) Job Log. The User Response section of various ETE™ message requests that you collect systems information and memory dumps before contacting IBM® Software Support. How to collect this information for ETE™ is documented in the <i>IBM® Tivoli® End to End Response Time Reference</i> book.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> ETE™ messages are documented in the <i>IBM® Tivoli® End to End Response Time Reference</i> book.</p> </div>
IBM® Tivoli® Management Services: Engine (TMS:Engine)	<p>TMS:Engine is a collection of basic operating system and communication service routines built specifically for z/OS®. All address spaces used by OMEGAMON® monitoring agents on z/OS® load and use the services of TMS:Engine.</p> <p>Successful initialization of TMS:Engine is noted by this message:</p> <div style="background-color: #F0F0F0; padding: 5px; margin-top: 10px;"> <pre>KLVIN408 IBM OMEGAMON PLATFORM ENGINE VERSION 400 READY</pre> </div> <p>For troubleshooting information about TMS:Engine problems, refer to the z/OS® initialization section of <i>IBM Tivoli Monitoring: Problem Determination Guide</i>. Explanations for messages generated by TMS:Engine can be found in <i>IBM Tivoli Monitoring: z/OS Messages</i>.</p> <p>TMS:Engine writes messages to the same RKLVLLOG as the product it is running. If you search the RKLVLLOG for an OMEGAMON monitoring agent on z/OS, product-specific messages start with the product code (for example, KN3 for OMEGAMON for Networks on z/OS) but messages for the TMS:Engine start with component prefixes KBB, KDH, KLB, KLE, KLU, KLV, and KLX.</p>
OMEGAMON® subsystem	The OMEGAMON® subsystem does not allocate an RKLVLLOG. This component issues messages directly to the z/OS® system console (or SYSLOG).
Persistent data store	The RKPDLLOG sysout data set or spool file contains the information and error messages related to the handling of persistent data stores.

## CI messages

Messages that begin with the CI prefix are associated with OMEGAMON® Base components.

### CI0410: INVALID COMMAND - ENTER '?' FOR LIST

#### Explanation

The command you entered is not an interface command.

#### System action

OMEGAMON ignores the command.

#### User response

Enter a proper interface command.

### CI0411: PARM MEMBER NAME MISSING

#### Explanation

An EXEC command was issued but the member name was omitted.

**System action**

OMEGAMON ignores the command.

**User response**

Re-enter the command, specifying correct member name.

**CI0412: 'ID=' MISSING - REENTER****Explanation**

A STOP command was issued but did not specify an ID, or had the wrong MODIFY ID to stop a subtask.

**System action**

OMEGAMON ignores the command.

**User response**

Re-enter the command, specifying the correct ID.

**CI0413: TASK ID TO STOP OR MODIFY MISSING - REENTER****Explanation**

A STOP command was entered without specifying an ID.

**System action**

OMEGAMON ignores the command.

**User response**

Re-enter the command, specifying the correct ID.

**CI0414: MISSING TASK TYPE TO START****Explanation**

A START command was entered without specifying a task, such as KKOBCICSCICS or OMVTAM.

**System action**

OMEGAMON ignores the command.

**User response**

Re-enter the command, specifying the correct task.

**CI0415: EXPECTED TASKID MISSING - REENTER****Explanation**

A common interface command requiring a task ID was entered without the task ID.

**System action**

OMEGAMON ignores the command.

**User response**

Re-enter the command, specifying the task ID.

## CI0416: '=' MISSING - REENTER

### Explanation

A parameter that requires a value was entered with the value omitted, for example:

```
START KOBICCS,ROWS,COLS=80,...
```

rather than

```
START KOBICCS,ROWS=24,COLS=80,...
```

### System action

OMEGAMON ignores the command.

### User response

Re-enter the command with an = and a value after the parameter name.

## CI0417: CUU ADDRESS MISSING - REENTER

### Explanation

A common interface start command with a unit keyword was issued without the required unit address.

### System action

OMEGAMON ignores the command.

### User response

Re-enter the command with a unit address.

## CI0418: VALUE MISSING - OR INVALID

### Explanation

A parameter requires a valid value which was not supplied.

### System action

OMEGAMON ignores the command.

### User response

Re-enter the command, specifying a valid value.

## CI0419: USER DATA NAME MISSING - REENTER

### Explanation

A common interface start command with a user keyword was issued without the required user module suffix.

### System action

OMEGAMON ignores the command.

### User response

Re-enter the command with a user module suffix.

## **CI0420: SYSTEM ID MISSING - REENTER**

### **Explanation**

A common interface start command with a SYS keyword was issued without the required system ID.

### **System action**

OMEGAMON ignores the command.

### **User response**

Re-enter the command with a system ID.

## **CI0421: SYSTEM MODE MISSING - REENTER**

### **Explanation**

A common interface start command with a MODE keyword was issued without the required ID.

### **System action**

OMEGAMON ignores the command.

### **User response**

Re-enter the command with a system mode.

## **CI0425: YES OR NO REQUIRED - REENTER**

### **Explanation**

YES or NO was not specified in a parameter where it is required.

### **System action**

OMEGAMON ignores the command.

### **User response**

Re-enter the command, specifying **YES** or **NO**.

## **CI0510: ATTACH PROCESSING - TASK ID=cccccccc**

### **Explanation**

A common interface EXEC or START command has initiated a process to start a new task. The task identifier is cccccccc.

### **System action**

Attach processing continues.

### **User response**

None. This message is informational only.

## **CI0530: DUPLICATE TASK ID - TASK NOT STARTED**

### **Explanation**

This message follows CI0510. It indicates that a task with the identifier named in the CI0510 message is already active. The ID associated with a common interface task must be unique.

**System action**

Attach processing for the new task terminates.

**User response**

Add the 'ID' keyword to the task's START command, or terminate the executing task and start the new task again.

**CI0531: ID=cccccccc PROGRAM=aaaaaaaa****Explanation**

The common interface also issued message CI0530. This message displays the task ID (cccccccc) and program name (aaaaaaaa) associated with message CI0530.

**System action**

None.

**User response**

Use this task ID (cccccccc) to STOP the task.

**CI0532: TASK AREA NOT AVAILABLE - TASK NOT STARTED****Explanation**

This message follows CI0510. It indicates that memory is not available to build a work area needed by the common interface to start a new task.

**System action**

Attach processing for the new task terminates.

**User response**

If the problem persists, restart the common interface with a larger REGION size, or eliminate any currently executing tasks that are no longer needed.

**CI0533: ATTACH COMPLETE FOR TASK cccccccc, TCB xxxxxxxx****Explanation**

Attach processing has completed for an EXEC or START command. The task identifier is cccccccc. The TCB address of the new task is xxxxxxxx

**System action**

Processing continues.

**User response**

None. This message is informational only. and is issued after message CI0510.

**CI0534: ATTACH FAILED FOR TASK cccccccc****Explanation**

This message follows CI0510. Attach processing failed for the cccccccc task.

**System action**

Attach processing for the new task terminates.

**User response**

Contact IBM Software Support.

**CI0535: DUPLICATE ID - TASK NOT STARTED****Explanation**

An attempt was made to start a task with an ID identical to that of another task already running under the common interface.

**System action**

The new task does not start.

**User response**

Re-enter the command with a unique task ID.

**CI0536: ID=cccccccc PROGRAM=aaaaaaaa****Explanation**

The common interface also issued message CI0535. This message displays the task ID (cccccccc) and program name (aaaaaaaa) associated with message CI0535.

**System action**

The new task does not start.

**User response**

Re-enter the command with a unique task ID.

**CI0537: *Common Interface* - UNABLE TO OBTAIN TASK AREA****Explanation**

There is insufficient storage for the Interface to obtain a work area for the starting task.

**System action**

OMEGAMON ignores the common interface start command.

**User response**

Check for error messages on the system console that might provide a reason for the failure. Once the source of the storage constraint is corrected, retry the START command. If this problem persists, increase the region size.

**CI0542: STOP ID NOT FOUND****Explanation**

The STOP command specified an ID that is not active.

**System action**

Processing terminates.

**User response**

Use the DISPLAY or LIST command to display the active task IDs.

## **CI0543: THE FOLLOWING TASK IDS ARE ACTIVE:**

### **Explanation**

The DISPLAY or LIST command shows which tasks are active.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **CI0544: JSCB BUILD FAILED - TASK NOT STARTED**

### **Explanation**

This message follows CI0510. A JSCB control block needed by the common interface to start a new task could not be built.

### **System action**

Attach processing for the new task terminates.

### **User response**

Check the system console for related error messages and contact IBM Software Support.

## **CI0545: CSCB BUILD FAILED - TASK NOT STARTED**

### **Explanation**

This message follows CI0510. A CSCB control block needed by the common interface to start a new task could not be built.

### **System action**

Attach processing for the new task terminates.

### **User response**

Check the system console for related error messages and contact IBM Software Support.

## **CI0546: GETMAIN FAILED FOR SP230 PARAMETER WORK AREA**

### **Explanation**

The common interface was unable to acquire a parameter work area in subpool 230 that is used by subtasks attached with a system key specification.

### **System action**

The subtask creation request is ignored.

### **User response**

Contact IBM Software Support.

## **CI0550: TASK BUSY - MODIFY MESSAGE NOT SENT TO TASK**

### **Explanation**

A request was made to the common interface to issue an z/OS® modify command to a subtask, but the subtask is not currently accepting modify commands.

### **System action**

OMEGAMON ignores the modify request.

### **User response**

Retry the command.

## **CI0551: MODIFY MESSAGE SENT TO TASK**

### **Explanation**

The common interface honored a MODIFY command.

### **System action**

The common interface issues the modify command to the subtask.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **CI0552: TASK TO MODIFY NOT FOUND**

### **Explanation**

A request was made to the common interface to issue a modify command to a subtask whose ID (specified in the MODIFY command) cannot be found among the currently active subtasks.

### **System action**

OMEGAMON ignores the modify request.

### **User response**

Use the LIST command to determine which tasks are active to the common interface. Correct the task ID and reissue the MODIFY command.

## **CI0553: DYNAMIC ALLOCATION FOR SNAP FILE FAILED, ERROR=aaaaa, REASON=bbbb, RI5=cccc.**

### **Explanation**

When the DSNAPON command is presented to the common interface, it attempts to dynamically allocate the response time collector SNAP debugging file. Should an error occur during the allocation process, the above message displays showing the error codes returned by the supervisor allocation routines. Note that the common interface only uses dynamic allocation for the response time collector SNAP file in the absence of a DSNAPDD data definition statement.

### **System action**

The response time collector SNAP debugging file does not allocate or open.

### **User response**

The error, reason, and return codes in this message are described in the IBM® *MVS™ Job Management Manual*. Correct the source of the error message and retry the allocation. Alternatively, a DSNAPDD data definition

statement can be included in the common interface JCL stream, thereby avoiding the need to use dynamic allocation.

## **CI0560: RKANPAR DATA SET OPEN ERROR**

### **Explanation**

The rhilev.RKANPAR data set could not be opened

### **System action**

EXEC processing terminates.

### **User response**

Check that the RKANPAR DD statement is in the JCL for this region. Check that the data set has the proper attributes (see the installation documentation). Contact IBM® Software Support for assistance.

## **CI0561: INVALID LRECL OF RKANPAR - NOT LRECL=80**

### **Explanation**

The rhilev.RKANPAR data set does not have an LRECL of 80.

### **System action**

EXEC processing terminates.

### **User response**

Check and correct the LRECL of the rhilev.TOBDATA data set.

## **CI0562: MEMBER NOT FOUND IN DATA SET**

### **Explanation**

A member name was specified in the EXEC command, but that member does not exist in the rhilev.T.RKANPAR data set.

### **System action**

EXEC processing terminates.

### **User response**

Check the member name entered and re-enter the correct name.

## **CI0563: ERROR OBTAINING A BUFFER FOR READING RKANPAR**

### **Explanation**

The Common Interface was unable to obtain an I/O buffer for reading the rhilev.RKANPAR data set. This is probably the result of a severe storage shortage in the system.

### **System action**

EXEC processing terminates.

### **User response**

Try the command later when storage use lessens. Increase the region size if this condition persists.

## **CI0564: ERROR OBTAINING AN INPUT AREA FOR RECORD**

### **Explanation**

The command processor could not obtain an input cell for a record from the rhilev.RKANPAR data set. EXEC processing terminates.

### **User response**

Try the command later when core use lessens. Increase the region size if this condition persists.

## **CI0565: EXEC LIMIT EXCEEDED**

### **Explanation**

You reached the limit of ten EXEC members to be processed per command invocation. This limit prevents a possible loop in the EXEC process where member A EXECs B and member B EXECs A.

### **System action**

EXEC processing terminates.

### **User response**

Check that the EXEC members do not cause EXEC loops. Reorganize the commands to be executed to fewer than ten members total.

## **CI0567: KEY VALUE OUT OF RANGE, MUST BE 0-7**

### **Explanation**

The KEY= keyword may only specify keys 0-7. Key 8 is used by V=V problem programs and keys 9-15 are reserved for V=R problem programs.

### **System action**

OMEGAMON ignores the request.

### **User response**

Specify a valid KEY= keyword value.

## **CI0580: \*\*\* NO TASKS ARE ACTIVE \*\*\***

### **Explanation**

OMEGAMON issues this message in response to a DISPLAY or LIST command when no tasks are active.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **CI0585: ERROR READING RKANPAR MEMBER - SYNAD MESSAGE:**

### **Explanation**

A system error occurred while processing a member of the hilev.RKANPAR data set. A SYNAD message follows.

**System action**

Command processing terminates.

**User response**

Check the SYNAD message for cause of the error.

**CI0586: FREEMAIN FAILED FOR SP230 PARAMETER WORK AREA FOLLOWING ATTACH FAILURE****Explanation**

The common interface was unable to freemain the parameter work area in subpool 230 that is used by subtasks attached with a system key specification. This occurred after the subtask attach attempt failed.

**System action**

None.

**User response**

Contact IBM Software Support.

**CI0587: FAILURE TO FREE CSCB****Explanation**

The command scheduling control block used by tasks that run under the common interface could not be unallocated.

**System action**

The CSCB storage, if any, is not freed.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0588: FAILURE TO FREE JSCB****Explanation**

The job step control block acquired by the common interface on behalf of one of its subtasks could not be released.

**System action**

The JSCB storage, if any, is not freed.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0592: TASK ID=XXXXXXXX HAS BEEN STOPPED VIA POST****Explanation**

The common interface honored a STOP command.

**System action**

The common interface requests the subtask to stop.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0593: TASK ID=XXXXXXXX HAS BEEN STOPPED VIA DETACH (STAE=YES)****Explanation**

The common interface processed a STOP command where the DETACH=Y parameter was specified.

**System action**

The common interface detaches the subtask which may result in an ABEND 33E.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0594: ID=cccccccc PROGRAM=aaaaaaaa****Explanation**

The common interface also issued message CI0592. This message displays the task ID (cccccccc) and program name (aaaaaaaa) associated with message CI0592.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0603: SYMBOL NOT DEFINED: ccccccccc****Explanation**

The symbol displayed is not known to the command processor.

**System action**

Command processing terminates.

**User response**

Check the input for spelling.

**CI0604: AMBIGUOUS SYMBOL: ccccccccc****Explanation**

The symbol entered cannot be uniquely identified.

**System action**

Command processing terminates.

**User response**

Spell out the command operand more fully.

## **CI0605: INVALID INPUT VALUE:**

### **Explanation**

The input value received is not valid for the symbol.

### **System action**

Command processing terminates.

### **User response**

Check to see if the value is correct or respecify differently, for example, as 43 instead of 0043 in number of ROWS on the terminal screen.

## **CI0606: EXPECTED CONTINUATION NOT RECEIVED**

### **Explanation**

An input statement had a continuation indication but was the last statement input to the command processor.

### **System action**

This command processing terminates.

### **User response**

Add a continuation statement or remove the continuation indicator.

## **CI0607: EXPECTED INPUT NOT RECEIVED**

### **Explanation**

A command is expecting some input options but they were not specified (for example, ROWS=).

### **System action**

Command processing terminates.

### **User response**

Specify the required options.

## **CI0608: ERROR IN FREE CELL ROUTINE**

### **Explanation**

The parser had an error trying to free an input command cell.

### **System action**

Processing terminates.

### **User response**

Contact IBM Software Support for assistance.

## **CI0609: ERROR IN FREE POOL ROUTINE**

### **Explanation**

The parser had an error trying to free the input command pool.

**System action**

Processing terminates.

**User response**

Contact IBM Software Support for assistance.

**CI0700: OMEGAMON *Common Interface* READY FOR COMMANDS****Explanation**

The Interface enters a WAIT state to wait for commands to process.

**System action**

The Interface waits.

**User response**

The Interface is now ready to accept commands via MODIFY.

**CI0715: MODIFY IGNORED****Explanation**

The Interface is not in a state where it accepts the MODIFY command.

**System action**

Command processing terminates.

**User response**

Reissue the command.

**CI0720: PROCESS MESSAGES FOLLOW****Explanation**

Informational and error messages generated during command processing follow.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0722: SUBTASK LOOP IDENTIFICATION AND ANALYSIS IN PROGRESS****Explanation**

The common interface detected a looping condition in one of its subtasks.

**System action**

The common interface attempts to identify the looping subtask. The common interface will not accept any commands while task-level loop checking is in progress.

**User response**

Determine why the subtask was looping. Correct the problem and restart the subtask.

## **CI0723: LOOPING *Common Interface* SUBTASK SCHEDULED FOR TERMINATION**

### **Explanation**

The common interface identified a looping subtask and scheduled it for termination. Message CI0724 accompanies this one.

### **System action**

OMEGAMON forcibly detaches the looping subtask and generates a SNAP dump (ddname: SNAPFILE).

### **User response**

See accompanying message CI0724 for the name and ID of the looping program. Examine the SNAP dump to determine why the subtask was looping. Correct the problem and restart the subtask. If necessary, contact IBM Software Support with the dump information.

## **CI0724: ID=cccccccc PROGRAM=aaaaaaaa**

### **Explanation**

The subtask specified by the task ID (cccccccc) and program name (aaaaaaaa) is scheduled for termination because of a suspected looping condition. This message accompanies CI0723.

### **System action**

Processing continues.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. See accompanying message CI0723.

## **CI0725: ZERO POINTER TO CIB FOUND**

### **Explanation**

An unexpected condition occurred and an abend may result.

### **System action**

Processing tries to continue.

### **User response**

If an abend occurs, let the Interface retry. Contact IBM Software Support for assistance.

## **CI0726: SUBTASK LOOP IDENTIFICATION AND ANALYSIS COMPLETED SUCCESSFULLY**

### **Explanation**

The common interface completed its analysis of subtask CPU utilization. Commands will now be accepted normally.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **CI0727: SUBTASK LOOP IDENTIFICATION AND ANALYSIS TERMINATED WITHOUT RESOLUTION**

### **Explanation**

The common interface terminated its analysis of subtask CPU utilization. This occurred because a subtask terminated (normally or abnormally), or the common interface was unable to isolate the errant subtask.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **CI0730: TERMINATION REQUEST ACKNOWLEDGED**

### **Explanation**

The common interface acknowledges the user's stop command.

### **System action**

The common interface begins termination processing.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **CI0731: COMMAND PARSE COMPLETED WITH CRITICAL ERRORS**

### **Explanation**

The parsing of the command results in a failure of the parser.

### **System action**

OMEGAMON ignores the command.

### **User response**

Contact IBM Software Support for assistance and have a copy of the input available.

## **CI0732: FREE INPUT CELL CRITICAL ERROR**

### **Explanation**

Command processing is complete but the Interface is unable to release the input message cell.

### **System action**

Processing continues.

### **User response**

Contact IBM Software Support for assistance.

## **CI0734: FREE INPUT POOL CRITICAL ERROR**

### **Explanation**

Command processing is complete but the Interface was unable to release the input message pool.

**System action**

Command processing continues.

**User response**

Contact IBM Software Support for assistance.

**CI0735: KOBCIIP $n$  LOAD ERROR****Explanation**

The common interface was unable to load the parser and command processing routines.  $n$  is an operating system identifier from 1–4.

**System action**

The common interface terminates the command.

**User response**

Make sure KOBCIIP $n$  is in a load library accessible to the common interface.

**CI0736: FREE MESSAGE CELL CRITICAL ERROR****Explanation**

Command processing is complete but the Interface is unable to release the output message cell.

**System action**

Command processing continues.

**User response**

Contact IBM Software Support for assistance.

**CI0738: FREE MESSAGE POOL CRITICAL ERROR****Explanation**

Command processing is complete but the Interface is unable to release the output message pool.

**System action**

Command processing continues.

**User response**

Contact IBM Software Support for assistance.

**CI0740: UNABLE TO OBTAIN STORAGE FOR COMMAND****Explanation**

Common interface is unable to obtain the storage required to process a command.

**System action**

None.

**User response**

Increase the region available to the common interface.

## **CI0741: PROCESS GET CELL ERROR: CMD IGNORED**

### **Explanation**

The Interface is unable to get an input command cell in which to place the command to process.

### **System action**

OMEGAMON ignores the command.

### **User response**

The lack of available virtual storage may cause the error. Reissue the command when storage usage lessens. If the problem persists, increase the region size. Contact IBM Software Support for assistance.

## **CI0750: MESSAGES PRIOR TO ERROR**

### **Explanation**

After an error is detected and retry started, the messages that resulted appear.

### **System action**

None.

### **User response**

Note which processes completed. Contact IBM Software Support for assistance.

## **CI0756: ATTACH FAILED**

### **Explanation**

An attach of a common interface subtask failed.

### **System action**

None.

### **User response**

Check for messages on the system console, and contact IBM Software Support.

## **CI0759: TASK-LEVEL LOOP CHECKING IN PROGRESS**

### **Explanation**

The common interface is monitoring individual subtasks for excessive CPU utilization. No commands will be accepted while task-level loop checking is in progress.

### **System action**

OMEGAMON ignores the request.

### **User response**

Retry the request after task-level loop checking has completed.

## **CI0760: PROCESSING COMMAND**

### **Explanation**

The processing of the command entered using the MODIFY begins.

**System action**

Command processing starts.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0762: FREE MESSAGE CELL CRITICAL ERROR****Explanation**

Cleanup routine after an error is unable to free up message cells.

**System action**

Cleanup continues.

**User response**

Contact IBM Software Support for assistance.

**CI0764: FREE MESSAGE POOL CRITICAL ERROR****Explanation**

Cleanup routine after an error is unable to free up message pool.

**System action**

Cleanup continues.

**User response**

Contact IBM Software Support for assistance.

**CI0770: INPUT AT TIME OF ERROR \*\*****Explanation**

OMEGAMON displays the command processing at the time of the error.

**System action**

Cleanup continues.

**User response**

Contact IBM Software Support for assistance.

**CI0772: FREE MESSAGE CELL CRITICAL ERROR****Explanation**

The input message cells could not be freed.

**System action**

Cleanup continues.

**User response**

Contact IBM Software Support for assistance.

## **CI0774: FREE MESSAGE POOL CRITICAL ERROR**

### **Explanation**

The input message pool could not be freed.

### **System action**

Cleanup continues.

### **User response**

Contact IBM Software Support for assistance.

## **CI0787: FAILURE TO FREE CSCB**

### **Explanation**

This message indicates either an internal error or storage corruption.

### **System action**

The subtask termination cleanup continues.

### **User response**

Contact IBM Software Support for a problem number and instructions for forwarding the following documentation: a log of the debug screen space sequence and any dumps produced by the common interface address space or related TSO address space.

## **CI0788: FAILURE TO FREE JSCB**

### **Explanation**

This message indicates either an internal error or storage corruption.

### **System action**

The subtask termination cleanup continues.

### **User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

## **CI0789: FREEMAIN FAILED FOR SP230 PARAMETER WORK AREA FOLLOWING SUBTASK TERMINATION**

### **Explanation**

The common interface was unable to freemain the parameter work area in subpool 230 that is used by subtasks attached with a system key specification. This occurred after the subtask terminated normally or abnormally.

### **System action**

None.

### **User response**

Contact IBM Software Support.

## **CI0798: INVALID RETURN FROM TERMINATION CALL**

### **Explanation**

Internal error. This message should be accompanied by abend U798.

**System action**

The common interface abnormally terminates.

**User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

**CI0799: UNABLE TO LOCATE RECOVERY HEADER****Explanation**

Internal error. This message should be accompanied by abend U799.

**System action**

The common interface abnormally terminates.

**User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

**CI0900: *Common Interface* INITIALIZATION****Explanation**

The common interface is beginning initialization.

**System action**

Initialization continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0901: GLOBAL ADDRESS SPACE VECTOR TABLE BUILD FAILED****Explanation**

The GETMAIN for the LSQA to hold the vector table failed.

**System action**

The common interface terminates.

**User response**

Contact IBM Software Support.

**CI0906: PE SERVER SYSPRINT DCB GETMAIN FAILED.****Explanation**

The common interface was unable to obtain virtual storage in the OMEGAMON® address space required for the data server SYSPRINT DCB.

**System action**

The common interface terminates.

**User response**

Increase the region size and restart the OMEGAMON® server.

## **CI0907: PE SERVER SYSPRINT DCB OPEN FAILED.**

### **Explanation**

The common interface failed to open the data server SYSPRINT DCB.

### **System action**

The common interface terminates.

### **User response**

Specify a SYSPRINT DDname in the OMEGAMON® server started task JCL and restart the OMEGAMON® server.

## **CI0908: PE SERVER SYSPRINT TOKEN CREATE FAILED.**

### **Explanation**

The common interface failed to create the data server home-level name/token pair.

### **System action**

The common interface terminates.

### **User response**

Contact the IBM® Software Support.

## **CI0931: SUBTASK ERROR RECOVERY DETECTED INVALID ISDA**

### **Explanation**

This error is caused either by an internal error or by the corruption of virtual storage.

### **System action**

The subtask terminates.

### **User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

## **CI0935: RETRY FROM Interface A ERROR RECOVERY**

### **Explanation**

Interface D abnormally terminated and control has passed back to Interface A.

### **System action**

System action is dependent on the response made to message CI0995, which always immediately follows this message.

### **User response**

Respond to message CI0995.

## **CI0938: ERROR ENCOUNTERED ATTEMPTING TO SERIALIZE NON-SWAPPABILITY**

### **Explanation**

The common interface was unable to successfully enqueue upon a step-level resource used to regulate non-swapability.

**System action**

The common interface terminates.

**User response**

Contact IBM Software Support.

**CI0940: MODULE KOBCCIID $n$  NOT FOUND****Explanation**

The common interface could not find module KOBCCIID $n$ .  $n$  is an operating system identifier from 1–4.

**System action**

The common interface does not initialize.

**User response**

Verify that KOBCCIID $n$  is installed in the common interface's JOBLIB/STEPLIB, and restart the common interface.

**CI0941: LINK FAILED - Interface D****Explanation**

The link to OBCIID was unsuccessful.

**System action**

The common interface terminates.

**User response**

Check the JES job log for messages. The most Common reason for this failure is that OBCIID is not available from the STEPLIB of the common interface.

**CI0951: PLACE MODULE cccccccc IN A JOB/STEP/LPA LIBRARY****Explanation**

An error (that was logged in a message preceding this one) is caused by the absence of the indicated module.

**System action**

It depends on the error logged in the previous message.

**User response**

Respond as indicated in the previous message.

**CI0952: REPLY GO, STOP (TERMINATES *Common Interface* OPERATION), OR HELP****Explanation**

See **System Action** and **User Response**.

**System action**

Interface retries, or termination of the common interface, depending on the response to the message.

**User response**

A response of GO retries initiation of the Interface. Precede this response with corrective action to address the cause of the problem, such as placing a new, good copy of a program in a library. STOP terminates the common interface. HELP produces an explanatory message and reissues the WTOR.

**CI0960: ENVIRONMENT MISMATCH, SYSTEM MUST BE MVS/SP™ 1.3 OR HIGHER****Explanation**

The common interface was started in an operating system that does not support its functions.

**System action**

The common interface does not initialize.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**CI0961: ENVIRONMENT MISMATCH, 370 VERSION IN XA, OR XA VERSION IN 370****Explanation**

The common interface was started in an incompatible operating system.

**System action**

The common interface does not initialize.

**User response**

Verify that the correct version of the common interface is installed.

**CI0968: *Common Interface* REQUIRES APF-AUTHORIZATION****Explanation**

The common interface determined that it did not possess APF authorization.

**System action**

The common interface terminates with a U0968 abend.

**User response**

Make sure the common interface load modules reside in an APF-authorized library.

**CI0969: *Common Interface* MUST EXECUTE AS PRIMARY NON-SYSTEM JOB STEP TASK****Explanation**

The common interface must run as the primary non-system job step task in the address space. Typically, this requirement is satisfied when the common interface is attached by IEESB605 (started task control) when run as a started task, or by IEFIIC (initiator Interface control) when run as a batch job. The common interface is not designed to run in a TSO environment under the TMP (terminal monitor program).

**System action**

The common interface terminates.

**User response**

Contact IBM Software Support.

**CI0970: OMEGAMON SUBTASK ABEND CODE=cccccccc  
PSW=aaaaaaaaaaaaaaaa TCB=bbbbbbbb**

**Explanation**

A subtask of the common interface abended. This message displays the abend code, the PSW at time of abend, and the address of the abending task's TCB display.

**System action**

The subtask produces a system termination dump.

**User response**

Contact IBM Software Support.

**CI0971: PROGRAM NAME=cccccccc**

**Explanation**

This message follows CI0970 when a subtask abend occurs, and identifies the program that was given control when the subtask was started.

**System action**

The subtask abnormally terminates.

**User response**

Restart the failing subtask.

**CI0985: SUBTASK ID=XXXXXXXX FORCIBLY DETACHED**

**Explanation**

A common interface module (KOBICRT0) detected that a subtask of the common interface was detached by its mother task while the subtask was still active.

**System action**

None.

**User response**

This may or may not be an error. If the subtask's mother task was requested to stop, then no error occurred.

**CI0995: Interface A ERROR RECOVERY RETRY - ENTER 'GO', 'STOP', OR 'HELP'**

**Explanation**

The common interface has abended and requests a response from the operator.

**System action**

The Interface restarts or the common interface terminates, depending on the response to the message.

**User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

## **CI0997: INVALID RETURN FROM TERMINATION CALL**

### **Explanation**

Internal error. This message should be accompanied by abend U997.

### **System action**

The common interface abnormally terminates.

### **User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

## **CI0998: UNABLE TO LOCATE RECOVERY HEADER**

### **Explanation**

Internal error. This message should be accompanied by abend U998.

### **System action**

The common interface abnormally terminates.

### **User response**

Follow the instructions given in the support appendix, then contact IBM Software Support.

## **CI0999: LOAD OF OBCIGL FAILED**

### **Explanation**

The common interface was unable to load the global address space vector table service routine.

### **System action**

The common interface terminates.

### **User response**

Make sure OBCIGL is in a load library accessible to the common interface.

## **CND messages**

Messages that begin with the CND prefix are associated with OMEGAMON® Base components.

## **CNDL001I: OMEGAMON® SUBSYSTEM V999” INITIALIZATION - SSID = cccc**

### **Explanation**

OMEGAMON® Subsystem address space initialization processing has begun. The subsystem version number is “999”, and the z/OS® subsystem identifier is cccc.

### **System action**

OMEGAMON® Subsystem processing continues.

### **User response**

None. This message is informational only.

## **CNDL002I: OMEGAMON® SUBSYSTEM V999 TERMINATED - SSID = cccc**

### **Explanation**

OMEGAMON® Subsystem address space termination processing has completed. The subsystem version number is “999”, and the z/OS® subsystem identifier is cccc.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

None. This message is informational only.

## **CNDL003A: OMEGAMON® SUBSYSTEM INITIALIZATION FAILED - REGION TOO SMALL**

### **Explanation**

The OMEGAMON® Subsystem address space could not obtain enough private-area storage to complete initialization.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

Increase the REGION specification included in the address space start-up JCL.

## **CNDL004A: OMEGAMON® SUBSYSTEM REQUIRES APF AUTHORIZATION**

### **Explanation**

The OMEGAMON® Subsystem address space must execute from an APF-authorized library.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

APF-authorize the OMEGAMON® Subsystem’s load library.

## **CNDL005A: OMEGAMON® SUBSYSTEM RECEIVED CONTROL IN AN AUTHORIZED KEY**

### **Explanation**

The OMEGAMON® Subsystem address space received control in execution key 0–7. The Subsystem must be installed to receive control in a non-authorized key. Only APF-authorization is required.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

Use the correct procedure to install the OMEGAMON® Subsystem.

## **CNDL006A: ccccccc KEYWORD VALUE INVALID**

### **Explanation**

The value of the ccccccc keyword is not valid.

### **System action**

The request associated with the keyword is rejected. The nature of the request determines the action taken. For example, if a OMEGAMON® Subsystem start parameter is found in error, the Subsystem address space terminates. If an operator command keyword is in error, the command is rejected.

### **User response**

Correct the keyword specification.

## **CNDL007A: ccccccc KEYWORD OCCURS MULTIPLE TIMES**

### **Explanation**

The ccccccc keyword occurs multiple times in a single Subsystem request.

### **System action**

The request associated with the keyword is rejected. The nature of the request determines the action taken. For example, if a OMEGAMON® Subsystem start parameter is found multiple times, the Subsystem address space terminates. If an operator command keyword is found multiple times, the command is rejected.

### **User response**

Correct the keyword specification.

## **CNDL009I: SSCVT CHAIN ENTRY INVALID - ADDRESS X'xxxxxxxx'**

### **Explanation**

The SSCVT chain entry at storage location X'xxxxxxxx' is not formatted correctly. During initialization, the OMEGAMON® Subsystem found the invalid entry while looking for its own SSCVT entry. The Subsystem cannot complete initializing without its SSCVT entry.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

Correct the cause of the SSCVT entry formatting error and correct the entry.

## **CNDL010A: OMEGAMON® SUBSYSTEM IS NOT DEFINED - SSID = cccc**

### **Explanation**

The OMEGAMON® Subsystem identifier cccc has not been defined as an z/OS® subsystem. The identifier must be defined to z/OS® during Subsystem installation. A system IPL is required before the new definition becomes effective.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

Review the OMEGAMON® Subsystem installation procedures. Verify that subsystem definition statements have been added to the appropriate IEFSSNcc member in SYS1.PARMLIB.

## **CNDL013I: OMEGAMON® SUBSYSTEM INITIALIZED WITH “RESTART=FORCE”**

### **Explanation**

The OMEGAMON® Subsystem address space start parameter included the keyword RESTART=FORCE. This keyword causes Subsystem initialization to continue even if another OMEGAMON® Subsystem address space is active. RESTART=FORCE should not be used unless repeated attempts to start the Subsystem result in message CNDL018I and it is known that no other OMEGAMON® Subsystem address space is active.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

None. This message is informational only.

## **CNDL014A: SUBSYSTEM INITIALIZATION MODULE KCNDLINT DID NOT RUN SUCCESSFULLY**

### **Explanation**

OMEGAMON® Subsystem initialization module KCNDLINT did not run successfully during the system IPL.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

An IPL is needed to complete the installation of the OMEGAMON® Subsystem. If an IPL was done, check the SYSLOG for messages to determine why KCNDLINT did not execute. Make sure you complete all OMEGAMON® Subsystem installation steps and perform an IPL before starting the OMEGAMON® Subsystem address space.

## **CNDL018I: OMEGAMON® SUBSYSTEM ALREADY ACTIVE - *nnnnnnnn iiiiii***

### **Explanation**

The address space producing this message has determined that the OMEGAMON® Subsystem address space is already active. The name of the already-active address space is *nnnnnnnn*; its address space identifier is *iiiiii*.

### **System action**

The address space producing this message terminates.

### **User response**

None. This message is informational only.

## **CNDL019W: CONDITIONAL STORAGE REQUEST FAILED - *cccccccc***

### **Explanation**

The Subsystem has attempted and failed to obtain private-area storage. The name of the requesting routine is *cccccccc*.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

No immediate action is necessary. However, other messages requiring specific action may appear as a result of the failed storage request. If this message appears frequently, it may be necessary to increase the value of the REGION parameter for the Subsystem address space.

## **CNDL020A: START PARAMETER STRING SYNTAX ERROR**

### **Explanation**

The syntax of the parameter string passed to the Subsystem during initialization is in error.

### **System action**

The OMEGAMON® Subsystem address space terminates.

### **User response**

Correct the parameter string error and restart the Subsystem address space.

## **CNDL021I: RKANPAR FILE OPEN ERROR - RC = X'xxxxxxxx'.**

### **Explanation**

The RKANPAR file failed to open. The error code returned by IBM® OPEN processing was X'xxxxxxxx'.

### **System action**

The OMEGAMON® Subsystem address space remains active. Depending on the severity of the error, additional Subsystem messages may appear.

### **User response**

Check the console for any additional Subsystem or IBM-component messages. If the error's cause cannot be determined, contact IBM Software Support.

## **CNDL022I: RKANPAR FILE FAILED TO OPEN**

### **Explanation**

The RKANPAR file failed to open. There was no error code returned by IBM® OPEN processing.

### **System action**

The OMEGAMON® Subsystem address space remains active. Depending on the severity of the error, additional Subsystem messages may appear.

### **User response**

Check the console for any additional Subsystem or IBM-component messages. If the cause of the error cannot be determined, contact IBM Software Support.

## **CNDL024I: ccccccc MEMBER *mmmmmmm* NOT FOUND**

### **Explanation**

The *mmmmmmm* partitioned data set member could not be found. The ddname associated with the partitioned data set is *ccccccc*.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

Verify that the partitioned data set member name was specified correctly and retry the Subsystem request.

## **CNDL027I: FUNCTION cccccccc STARTED**

### **Explanation**

Function cccccccc has been started by the Subsystem. The function is now available for use by other IBM® Tivoli® products.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

None. This message is informational only.

## **CNDL030I: FUNCTION cccccccc STOPPED**

### **Explanation**

Function cccccccc has been stopped by a user request. The function is no longer available for use by other IBM® Tivoli® products.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

None. This message is informational only.

## **CNDL032I: FUNCTION cccccccc STOPPED BY THE SUBSYSTEM**

### **Explanation**

Function cccccccc has been stopped by the Subsystem. The function is no longer available for use by other IBM® Tivoli® products. The Subsystem has stopped the function as a result of an error or Subsystem address space termination.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

None. This message is informational only.

## **CNDL034I: SUBSYSTEM START MEMBER cccccccc**

### **Explanation**

RKANPAR member cccccccc was used as the Subsystem initialization member during Subsystem start-up.

### **System action**

The OMEGAMON® Subsystem address space remains active.

### **User response**

None. This message is informational only.

## **CNDL100I: I/O SERVICES NOT AVAILABLE**

### **Explanation**

An error has occurred causing the termination of the dynamic I/O configuration subsystem. This message should be accompanied by another message explaining the error.

### **System action**

The routine terminates.

### **User response**

Follow the response for the accompanying message. Contact IBM Software Support if necessary.

## **CNDL101A: UNABLE TO OBTAIN PRIVATE STORAGE, DYNAMIC I/O SERVICES NOT AVAILABLE**

### **Explanation**

The dynamic I/O configuration monitor initialization routine was unable to obtain private area storage for its work area.

### **System action**

The routine terminates without initializing dynamic I/O monitoring.

### **User response**

Contact IBM Software Support.

## **CNDL102A: DSPSERV RC = X'xx' REASON CODE = yyyyyyyy**

### **Explanation**

The dynamic I/O configuration monitor initialization routine was unable to create a SCOPE=COMMON dataspace for its use. The return code from the DSPSERV macro invocation was X'xx', the reason code was yyyyyyyy.

### **System action**

The routine terminates without initializing dynamic I/O monitoring.

### **User response**

Check the return codes for the DSPSERV macro create function to determine if the failure was due to an installation option. If not, contact IBM Software Support.

## **CNDL103A: ALESERV RC = X'xx'**

### **Explanation**

The dynamic I/O configuration monitor initialization routine was unable to add an entry for a SCOPE=COMMON data space to all PASN-ALs in the system. The return code from the ALESERV macro invocation was X'xx'.

### **System action**

The routine terminates without initializing dynamic I/O monitoring.

### **User response**

Check the return codes for the ALESERV macro add function to determine if the failure was due to an installation option. If not, contact IBM Software Support.

## **CNDL104I: SVC DUMP TAKEN FOR DYNAMIC I/O CONFIGURATION SUBSYSTEM**

### **Explanation**

An abend has occurred and an SVC dump has been successfully produced.

### **System action**

The routine attempts to recover from the abend. If more than one abend has occurred, then the routine will terminate.

### **User response**

Retain the dump. Contact IBM Software Support.

## **CNDL105I: DYNAMIC I/O CONFIGURATION UNABLE TO OBTAIN CSA STORAGE**

### **Explanation**

An attempt to obtain CSA failed.

### **System action**

The dynamic I/O configuration monitor will function without I/O configuration change exits.

### **User response**

Contact IBM Software Support.

## **CNDL106W: UNABLE TO INSTALL I/O RECONFIGURATION COMPLETION EXIT, RC=X'xx'**

### **Explanation**

An attempt to install an I/O reconfiguration completion exit failed with return code X'xx'.

### **System action**

The dynamic I/O configuration monitor will function without the I/O configuration completion exit.

### **User response**

Contact IBM Software Support.

## **CNDL107W: UNABLE TO INSTALL I/O RECONFIGURATION REQUEST EXIT, RC=X'xx'**

### **Explanation**

An attempt to install an I/O reconfiguration request exit failed with return code X'xx'.

### **System action**

The dynamic I/O configuration monitor will function without the I/O configuration request exit.

### **User response**

Contact IBM Software Support.

## **CNDL108A: UNABLE TO BUILD UCB TABLE, RC = X'xx'**

### **Explanation**

An attempt to build a table of UCB addresses failed with return code X'xx'.

**System action**

The dynamic I/O configuration monitor will terminate.

**User response**

Contact IBM Software Support.

**CNDL109A: UCBSCAN RETURN CODE = X'xx'****Explanation**

An invocation of the UCBSCAN macro service failed with return code X'xx'.

**System action**

The dynamic I/O configuration monitor will terminate.

**User response**

Contact IBM Software Support.

**CNDL110A: UCB TABLE REBUILD FAILED WITH RC = X'xx'****Explanation**

An attempt to rebuild the UCB address table failed with return code X'xx'.

**System action**

The dynamic I/O configuration monitor will terminate.

**User response**

Contact IBM Software Support.

**CNDL150A: UNABLE TO OBTAIN STORAGE, DYNAMIC I/O RECONFIGURATION EXIT INOPERATIVE****Explanation**

An I/O reconfiguration exit attempted to obtain private storage and failed.

**System action**

The dynamic I/O configuration exit terminates.

**User response**

Contact IBM Software Support.

**CNDL151A: INVALID ALET, UNABLE TO ACCESS DATA SPACE, DYNAMIC I/O RECONFIGURATION EXIT INOPERATIVE****Explanation**

The ALET for the SCOPE=COMMON data space has been found to be invalid.

**System action**

The dynamic I/O configuration exit terminates.

**User response**

Contact IBM Software Support.

## **CNDL152A: INVALID DATA SPACE, DYNAMIC I/O RECONFIGURATION EXIT INOPERATIVE**

### **Explanation**

The ALET for the SCOPE=COMMON data space has accessed a data space that can not be validated.

### **System action**

The dynamic I/O configuration exit terminates.

### **User response**

Contact IBM Software Support.

## **CNDL153A: UNEXPECTED FUNCTION ENCOUNTERED BY I/O REQUEST EXIT**

### **Explanation**

The dynamic I/O configuration request exit has encountered an unknown function code.

### **System action**

The dynamic I/O configuration exit terminates.

### **User response**

Contact IBM Software Support.

## **CNDL154A: I/O aaaaaaaaaa EXIT UNABLE TO ACCESS DATA SPACE IN RECOVERY ROUTINE.**

### **Explanation**

An abend has caused entry to the recovery routine, and the data space cannot be accessed to notify potential users that the exit has abended. *aaaaaaaa* identifies the exit as either request or completion.

### **System action**

The dynamic I/O configuration exit terminates.

### **User response**

Contact IBM Software Support.

## **CNDL155A: I/O aaaaaaaaaa EXIT ALET INVALID**

### **Explanation**

An abend has caused entry to the recovery routine and the data space cannot be accessed to notify potential users that the exit has abended due to an invalid ALET. *aaaaaaaa* identifies the exit as either request or completion.

### **System action**

The dynamic I/O configuration exit terminates.

### **User response**

Contact IBM Software Support.

## **CNDL156A: I/O aaaaaaaaa EXIT UNABLE TO ACCESS WORK AREA IN RECOVERY ROUTINE**

### **Explanation**

An abend has caused entry to the recovery routine and the exit work area cannot be accessed. *aaaaaaaa* identifies the exit as either request or completion.

### **System action**

The dynamic I/O configuration exit terminates.

### **User response**

Contact IBM Software Support.

## **CNDL157I: SVC DUMP TAKEN FOR I/O aaaaaaaaa ROUTINE**

### **Explanation**

An abend has caused entry to the recovery routine and an SVC dump was produced. *aaaaaaaa* identifies the exit as either request or completion.

### **System action**

The dynamic I/O configuration exit terminates.

### **User response**

Retain the SVC dump. Contact IBM Software Support.

## **CNDL175W: UNABLE TO OBTAIN PRIVATE STORAGE, SUBSYSTEM INITIALIZATION ROUTINE TERMINATING**

### **Explanation**

OMEGAMON® Subsystem initialization routine KCNDLINT cannot obtain working storage.

### **System action**

The routine terminates without performing any functions.

### **User response**

Contact IBM Software Support.

## **CNDL176W: UNABLE TO ESTABLISH RECOVERY, SUBSYSTEM INITIALIZATION ROUTINE TERMINATING**

### **Explanation**

OMEGAMON® Subsystem initialization routine KCNDLINT cannot establish a recovery environment.

### **System action**

The routine terminates without performing any functions.

### **User response**

Contact IBM Software Support.

## **CNDL177W: *aaaa* SUBSYSTEM UNABLE TO OBTAIN ECSA STORAGE RC=X'xx'**

### **Explanation**

OMEGAMON® Subsystem initialization routine KCNDLINT cannot obtain ECSA storage for subsystem *aaaa*.

**aaaa**

name of the subsystem

**X'xx'**

return code from the STORAGE macro

### **System action**

The routine terminates without obtaining or formatting the control block anchor for the OMEGAMON® Subsystem.

### **User response**

If you cannot address the problem indicated by the return code, contact IBM Software Support.

## **CNDL178W: *aaaa* SUBSYSTEM UNABLE TO START ADDRESS SPACE *bbbbbbbb*, RETURN DATA = *xyyy***

### **Explanation**

The OMEGAMON® Subsystem initialization routine KCNDLINT failed to start the subsystem address space.

**aaaa**

name of the subsystem

**bbbbbbbb**

name of the procedure specified by the SSPROC keyword

**X'xx'**

return code from the ASCRE macro

**yy**

reason code from the ASCRE macro

### **System action**

The routine terminates without starting the subsystem address space.

### **User response**

If the return information does not indicate an installation addressable problem, contact IBM Software Support.

## **CNDL179A: INVALID PARAMETER STRING FOR SUBSYSTEM *aaaa***

### **Explanation**

The OMEGAMON® Subsystem initialization routine KCNDLINT found a syntax error in the parameter string passed to it using the IEFSSNcc member of SYS1.PARMLIB. *aaaa* is the name of the subsystem.

### **System action**

The routine terminates without starting the subsystem address space.

### **User response**

Correct the parameter string in the appropriate IEFSSNcc member of SYS1.PARMLIB.

## **CNDL180A: *aaaa* SUBSYSTEM INPUT PARAMETER *bbbbbbbb* OCCURS MULTIPLE TIMES**

### **Explanation**

The OMEGAMON® Subsystem initialization routine KCNDLINT found a keyword parameter to have been entered more than once in the input parameters obtained from the IEFSSNcc member of SYS1.PARMLIB.

#### ***aaaa***

name of the subsystem.

#### ***bbbbbbbb***

keyword parameter occurring multiple times.

### **System action**

The routine terminates without starting the subsystem address space.

### **User response**

Correct the parameter string in the appropriate IEFSSNcc member of SYS1.PARMLIB.

## **CNDL181I: SVC DUMP TAKEN FOR OMEGAMON® SUBSYSTEM *aaaa***

### **Explanation**

The OMEGAMON® Subsystem initialization routine KCNDLINT abended and an SVC dump was produced to gather diagnostic information. *aaaa* is the name of the subsystem.

### **System action**

The routine terminates.

### **User response**

Retain the dump and contact IBM Software Support.

## **CNDL182A: OMEGAMON® SUBSYSTEM *aaaa*, VALUE FOR KEYWORD SSPROC IS INVALID**

### **Explanation**

The OMEGAMON® Subsystem initialization routine KCNDLINT has determined that the value coded for keyword SSPROC in the IEFSSNcc member of SYS1.PARMLIB is invalid. *aaaa* is the name of the subsystem.

### **System action**

The routine terminates without attempting to start the OMEGAMON® Subsystem address space.

### **User response**

Start the subsystem address space manually, or correct the appropriate member of SYS1.PARMLIB and re-IPL.

## **CNDL183A: OMEGAMON® SUBSYSTEM *aaaa*, VALUE FOR RKANPAR KEYWORD MUST BE 2 BYTES LONG**

### **Explanation**

OMEGAMON® Subsystem initialization routine KCNDLINT has determined that the value coded for keyword RKANPAR in the IEFSSNcc member of SYS1.PARMLIB is not 2 bytes long. *aaaa* is the name of the subsystem.

### **System action**

The routine terminates without attempting to start the OMEGAMON® Subsystem address space.

**User response**

Start the subsystem address space manually, or correct the appropriate member of SYS1.PARMLIB and re-IPL.

**CNDL184I: OMEGAMON® SUBSYSTEM *aaaa* INITIALIZATION ROUTINE COMPLETED****Explanation**

The initialization routine specified in the IEFSSNcc member of SYS1.PARMLIB for subsystem *aaaa* has completed successfully. *aaaa* is the name of the subsystem.

**System action**

The routine has successfully completed without error.

**User response**

None. This message is informational only.

**CNDL185I: OMEGAMON® SUBSYSTEM *aaaa* INITIALIZATION ROUTINE RECOVERY SUCCESSFUL****Explanation**

The initialization routine specified in the IEFSSNcc member of SYS1.PARMLIB for subsystem *aaaa* has successfully recovered from an abend. *aaaa* is the name of the subsystem.

**System action**

The initialization routine terminates cleanly and returns control to the system.

**User response**

None. This message is informational only. However, there should be other messages which will require action.

**CNDL189W: SUBSYSTEM ADDRESS SPACE INITIALIZATION ROUTINE VALIDATION FAILURE****Explanation**

The OMEGAMON® Subsystem routine that runs during OMEGAMON® Subsystem address space initialization did not complete successfully.

**System action**

The OMEGAMON® Subsystem address space continues processing; however, the console operator command D A,L will not display the Subsystem address space as an active job on the system. To display the job, you must use the command D A,sssssss, where sssssss is the name of the subsystem started task.

**User response**

Gather SYSLOG and possible SVC dump information, and contact IBM Software Support.

**CS and CT messages**

Messages that begin with the CS and CT® prefixes are associated with OMEGAMON® Base components, especially the CSA Analyzer subsystem.

**CS075: UNABLE TO ESTABLISH VIRTUAL SESSION FOR *sid*. MAKE SURE THE SPECIFIED APPLICATION IS AVAILABLE AND A VALID LOGMODE IS BEING USED.**

**Explanation**

An attempt was made to establish a session using the identified session ID, but the attempt failed.

**System action**

None.

**User response**

Follow the message instructions.

**CSAA000I: CSAA SUBSYSTEM INITIALIZATION IN PROGRESS**

**Explanation**

The CSA Analyzer (CSAA) subsystem initialization started.

**System action**

Initialization processing continues.

**User response**

None.

**CSAA001I: CSAA SUBSYSTEM INITIALIZATION COMPLETED SUCCESSFULLY**

**Explanation**

The CSAA subsystem initialization processing completed successfully.

**System action**

The CSAA subsystem is ready to capture and report common storage usage.

**User response**

None.

**CSAA100E: CSAA SUBSYSTEM ALREADY RUNNING**

**Explanation**

The CSAA subsystem was already running when this CSAA subsystem address space tried to initialize. Only one CSAA subsystem address space can be active at a time.

**System action**

The second CSAA subsystem address space terminates.

**User response**

Stop the CSAA subsystem before starting another CSAA subsystem.

**CSAA200E: PREMATURE END OF INPUT PARAMETERS**

**Explanation**

The input parameters for the CSAA subsystem ended before expected.

**System action**

The CSAA subsystem terminates.

**User response**

Check the input parameters for proper syntax.

**CSAA210E: INPUT PARAMETER SYNTAX ERROR AT POSITION *xx*****Explanation**

CSAA detected an error at the specified position of the input parameter.

**System action**

The CSAA subsystem terminates.

**User response**

Check the input parameters for proper syntax.

**CSAA299E: CSAA SUBSYSTEM TERMINATING DUE TO PARAMETER ERROR.****Explanation**

CSAA detected an error in the input parameter.

**System action**

The CSAA subsystem terminates.

**User response**

Check the input parameters for proper syntax; then restart the CSAA subsystem.

**CSAA300E: UNABLE TO LOAD CSAA MODULE *cccccccc*, ABEND=*xxxx* RC=*yyyy*****Explanation**

The CSA Analyzer™ could not load the specified CSAA module *cccccccc* into virtual storage.

**System action**

The CSAA subsystem terminates.

**User response**

Ensure that the CSA Analyzer can access the CSAA load modules through LPALST, LINKLST, JOBLIB or STEPLIB concatenation.

**CSAA320E: UNABLE TO ATTACH CONSOLE COMMUNICATION TASK****Explanation**

The CSA Analyzer could not attach the console communication subtask.

**System action**

The CSAA subsystem terminates.

**User response**

Ensure that the CSA Analyzer can access the KCSCOMM load module through LPALST, LINKLST, JOBLIB or STEPLIB concatenation.

## **CSAA330E: UNABLE TO ATTACH SYSTEM TREND TASK**

### **Explanation**

The CSA Analyzer could not attach the system trend subtask.

### **System action**

The CSAA subsystem terminates.

### **User response**

Ensure that the CSA Analyzer can access the KCSSTRN load module through LPALST, LINKLST, JOBLIB or STEPLIB concatenation.

## **CSAA340E: UNABLE TO START JOB TREND TIMER**

### **Explanation**

The CSA Analyzer could not start the job trend timer.

### **System action**

The CSAA subsystem terminates.

### **User response**

Call IBM Software Support.

## **CSAA341E: JOB TREND PROCESSING ERROR**

### **Explanation**

Job trend processing routine encountered an error.

### **System action**

The CSAA subsystem terminates.

### **User response**

Call IBM Software Support.

## **CSAA350E: UNABLE TO START ORPHAN PROCESSING TIMER**

### **Explanation**

The orphan processing routine timer could not be started.

### **System action**

The CSAA subsystem terminates.

### **User response**

Call IBM Software Support.

## **CSAA351E: ORPHAN PROCESSING ERROR**

### **Explanation**

Orphan processing routine encountered an error.

**System action**

The CSAA subsystem terminates.

**User response**

Call IBM Software Support.

**CSAA352E: UPDATE PROCESSING ERROR; CSAA SUBSYSTEM SUSPENDED****Explanation**

The CSA Analyzer has experienced an error while processing.

**System action**

The CSAA subsystem is suspended from collecting new data and a system dump is produced.

**User response**

Save the system dump and SYSLOG and contact IBM Software Support for assistance.

**CSAA399E: UNABLE TO LOCATE AND/OR LOAD ALL MODULES****Explanation**

During CSAA initialization, the CSA Analyzer could not locate or load one or more CSAA load modules into virtual storage.

**System action**

The CSAA subsystem terminates.

**User response**

Ensure that the CSA Analyzer can access the CSAA load modules through LPALST, LINKLST, JOBLIB or STEPLIB concatenation.

**CSAA700E: SSCVT CHAIN IS INVALID, UNABLE TO ADD CSAA SSCVT****Explanation**

The CSA Analyzer encountered an error while trying to add the CSAA SSCVT dynamically to the SSCVT chain.

**System action**

The CSAA subsystem terminates.

**User response**

Define the CSAA subsystem in the SYS1.PARMLIB(IEFSSNxx) and IPL the system.

**CSAA710E: UNABLE TO ESTABLISH ERROR RECOVERY ENVIRONMENT****Explanation**

The CSA Analyzer could not establish the CSAA subsystem error recovery environment.

**System action**

The CSAA subsystem terminates.

**User response**

Call IBM Software Support.

## **CSAA720E: UNABLE TO INSTALL THE EXTRACTOR**

### **Explanation**

The CSA Analyzer could not install its extraction routine.

### **System action**

The CSAA subsystem terminates.

### **User response**

The CSA Analyzer cannot co-exist with some common storage monitors from other vendors. Call IBM Software Support.

## **CSAA730E: CSAA EXTRACTOR IN ERROR, EXTRACTOR REMOVED**

### **Explanation**

The CSAA data extraction routine encountered an error. The CSA Analyzer removes the extraction routine from the system.

### **System action**

The CSAA subsystem terminates.

### **User response**

Call IBM Software Support.

## **CSAA740E: UNABLE TO LOCATE THE DATA BUFFER**

### **Explanation**

The CSA Analyzer could not locate the CSAA extraction routine's data buffer.

### **System action**

The CSAA subsystem terminates.

### **User response**

Call IBM Software Support.

## **CSAA800E: UNABLE TO OBTAIN FIXED ECSA STORAGE FOR SSCVT**

### **Explanation**

The CSA Analyzer could not obtain storage for the CSAA SSCVT from extended CSA.

### **System action**

The CSAA subsystem terminates.

### **User response**

Check if all of extended CSA is in use. If not call IBM Software Support.

## **CSAA801E: UNABLE TO OBTAIN FIXED ECSA STORAGE FOR CSAVT**

### **Explanation**

The CSA Analyzer could not obtain storage for the CSAA vector table from extended CSA.

**System action**

The CSAA subsystem terminates.

**User response**

Check if all of extended CSA is in use. If not call IBM Software Support.

**CSAA802E: UNABLE TO OBTAIN FIXED ECSA STORAGE FOR CACHE BUFFER****Explanation**

The CSA Analyzer could not obtain storage for the cache buffer from extended CSA.

**System action**

The CSAA subsystem terminates.

**User response**

Check if all of extended CSA is in use. If not call IBM Software Support.

**CSAA804E: UNABLE TO OBTAIN FIXED ECSA STORAGE FOR DATA BUFFER****Explanation**

The CSA Analyzer could not obtain storage for the data buffer from extended CSA.

**System action**

The CSAA subsystem terminates.

**User response**

Check if all of extended CSA is in use. If not call IBM Software Support.

**CSAA805E: UNABLE TO OBTAIN ESQA STORAGE FOR SRB****Explanation**

The CSA Analyzer was unable to obtain storage for an SRB.

**System action**

The CSAA subsystem terminates.

**User response**

Call IBM Software Support.

**CSAA810E: UNABLE TO OBTAIN PAGABLE ECSA STORAGE****Explanation**

The CSA Analyzer could not obtain storage for the CSAA data areas from extended CSA.

**System action**

The CSAA subsystem terminates.

**User response**

Check if all of extended CSA is in use. If not call IBM Software Support.

## **CSAA811E: UNABLE TO OBTAIN DATA ELEMENT STORAGE IN PAGABLE ECSA**

### **Explanation**

The CSA Analyzer could not obtain storage for the data elements from extended CSA.

### **System action**

The CSAA subsystem terminates.

### **User response**

Increase the value for the PAGE= parameter. If the problem persists, call IBM Software Support.

## **CSAA820E: UNABLE TO OBTAIN EXTENDED PRIVATE STORAGE**

### **Explanation**

The CSA Analyzer could not obtain extended private storage.

### **System action**

The CSAA subsystem terminates.

### **User response**

Increase the region size for the CSAA address space. If the problem persists, call IBM Software Support.

## **CSAA850I: MONITORING ACTIVE FOR *aaa/aaaa***

### **Explanation**

The CSA Analyzer found that the z/OS® Common Storage Tracking function has been enabled and monitoring is now active for the indicated Common Storage Areas. The possible values for *aaa/aaaa* are

- CSA/ECSA - Common Service Area and Extended Common Service Area
- SQA/ESQA - System Queue Area and Extended System Queue Area

### **System action**

The CSAA subsystem is available to report on common storage usage.

### **User response**

None.

## **CSAA851I: MONITORING INACTIVE FOR *aaa/aaaa***

### **Explanation**

The CSA Analyzer found that the z/OS® Common Storage Tracking function has been disabled and common storage usage information is unavailable for the indicated Common Storage Areas. The possible values for *aaa/aaaa* are:

- CSA/ECSA - Common Service Area and Extended Common Service Area
- SQA/ESQA - System Queue Area and Extended System Queue Area

### **System action**

The indicated common storage area will not be reported on.

### **User response**

Enable the z/OS® Common Storage Tracking function. See the *z/OS® MVS™ Initialization and Tuning Reference* for further information on enabling the VSM Storage Tracking function.

**CSAA852I: PROGRAM - *pppppppp* VERSION - *vvvvvvvv* MAINTENANCE - *mmmmmmmm***

**Explanation**

The CSAA program *pppppppp* is at version *vvvvvvvv*. The current maintenance level is *mmmmmmmm*.

**System action**

This diagnostic message may be issued with other CSAA messages.

**User response**

See other CSAA messages for further information. This diagnostic message may provide useful information in determining current maintenance level.

**CSAA860E: MVS™ COMMON STORAGE TRACKING LEVEL NOT SUPPORTED - *nnnn***

**Explanation**

The CSA Analyzer found that the z/OS® Common Storage Tracking function is at LEVEL *nnnn*, a level that is not supported due to maintenance or release level. The z/OS® Common Storage Tracking function is at LEVEL *nnnn*. All common storage usage information is unavailable.

**System action**

The CSAA subsystem address space terminates.

**User response**

Contact IBM Software Support.

**CSAA861E: FAILURE DETECTED IN MVS™ COMMON STORAGE TRACKING**

**Explanation**

The CSA Analyzer found that the z/OS® Common Storage Tracking function has been disabled due to internal problems with the IBM® virtual storage management component. All common storage usage information is unavailable.

**System action**

The CSAA subsystem address space terminates.

**User response**

Contact your system programmer. If an SVC dump was produced by the CSAA address space, this may provide additional diagnostics for IBM® support personnel.

**CSAA890E: USE THE STOP COMMAND TO TERMINATE THE CSAA SUBSYSTEM**

**Explanation**

The CSA Analyzer has experienced an error, described by a previous message. The z/OS® STOP command should be issued to stop the CSAA address space.

**System action**

The CSAA subsystem is suspended from collecting new data.

**User response**

Examine the CSAA message which appears before this message in the SYSLOG; it will describe the reason the CSAA has been suspended. OMEGAMON commands may be used before the CSAA is stopped to examine the

current CSAA data. The z/OS® STOP command should then be issued to stop the CSAA address space. The z/OS® START command can then be issued to restart the CSAA address space.

## **CSAA899E: CSAA SUBSYSTEM TERMINATED DUE TO INSUFFICIENT STORAGE**

### **Explanation**

The CSA Analyzer could not obtain the storage required by the CSAA subsystem. The accompanying CSAA8xxE message identifies the type of storage that could not be obtained.

### **System action**

The CSAA subsystem terminated.

### **User response**

Follow the directions in the accompanying CSAA8xxE messages.

## **CSAA900E: CSAA SUBSYSTEM VERSION DOES NOT MATCH KCSEXTR VERSION**

### **Explanation**

The CSAA subsystem version does not match the initialization routine version.

### **System action**

The CSAA subsystem terminates.

### **User response**

Ensure that all CSAA load modules are of the same version. Check the LPALST and LINKLST concatenation for duplicate modules. If the problem cannot be resolved, call IBM Software Support.

## **CSAA901E: CSAA SUBSYSTEM VERSION DOES NOT MATCH KCSEXTR VERSION**

### **Explanation**

The CSAA subsystem version does not match the extraction routine version.

### **System action**

The CSAA subsystem terminates.

### **User response**

Ensure that all CSAA load modules are of the same version. Check the LPALST and LINKLST concatenation for duplicate modules. If the problem cannot be resolved, call IBM Software Support.

## **CSAA902E: CSAA SUBSYSTEM VERSION DOES NOT MATCH KCSMGR VERSION**

### **Explanation**

The CSAA subsystem version does not match the CSAA manager version.

### **System action**

The CSAA subsystem terminates.

### **User response**

Ensure that all CSAA load modules are of the same version. Check the LPALST and LINKLST concatenation for duplicate modules. If the problem can not be resolved, call IBM Software Support

## **CSAA997E: CSAA SUBSYSTEM ABNORMAL TERMINATION**

### **Explanation**

The CSAA subsystem encountered an error and terminates abnormally.

### **System action**

The CSAA subsystem terminates.

### **User response**

Call IBM Software Support.

## **CSAA998I: CSAA STOP COMMAND ACCEPTED**

### **Explanation**

The CSAA subsystem accepted the stop command.

### **System action**

The CSAA subsystem terminates.

### **User response**

None.

## **CSAA999I: CSAA SUBSYSTEM TERMINATION IN PROGRESS**

### **Explanation**

The CSAA subsystem is terminating.

### **System action**

The CSAA subsystem terminates.

### **User response**

None.

## **CT003: ACCESS FAILED FOR TABLE *tablename*. THE TABLE WAS NOT OPEN**

### **Explanation**

An attempt was made to access a table before the table was opened.

### **System action**

The table is not processed

### **User response**

Call IBM® Software Support.

## **ETE messages**

Messages that begin with the ETE™ prefix are associated with the End-to-End (ETE™) response time monitor component used by some OMEGAMON® monitoring agents.

## ETE0001: COMMAND NOT RECOGNIZED

### Explanation

ETE™ recognized the ETE™ command, but the argument following the command was not valid.

### System action

The command is not processed.

### User response

Enter the ETE™ command followed by a valid ETE™ command argument.

## ETE00014: VERBOSE MODE IN EFFECT

### Explanation

VERBOSE mode is now in effect.

### System action

ETE™ sends additional Application Program Interface (API) request messages and status to the system console.

### User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## ETE0002: ETE™ *Vvvvrr #nn LOADLIB=loadlib*

### Explanation

This is a header line for the command output, identifying the ETE™ version, where:

*vvv*

Is the version number (for example, Version 620).

*rr*

Is a release identifier for versions that have more than one release (for example, ETE101R2).

*nn*

Defaults to 0.

*loadlib*

Specifies the load library from which the ETE™ modules were loaded.

### System action

None.

### User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## ETE0003: COMPLETE

### Explanation

This is a trailer line for the command output, indicating that ETE™ completed the processing of the command. Note that the command output lines sometimes appear on the z/OS® system log in a different order than ETE™ generated them. Even though this message is the last one produced by the ETE™ subsystem in processing the command, other lines from the command output may appear after it on the log.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0004: SUBSYSTEM INACTIVE****Explanation**

ETE™ is inactive as a result of an ETE™ QUIESCE command. Since most of ETE's storage was freed, most commands cannot be meaningfully processed.

**System action**

The command is not processed.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE00041: *job\_name asid tcb\_address user\_type*****Explanation**

This message repeats for each product using the ETE™ subsystem processing the command. For each product, it shows the following:

- Jobname or started task name
- ASID
- TCB address
- ETE™ user type (CAPTURE or RSPTIME)

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0005: COLLECTOR TRACE CAPTURE INSTALL FAILURE****Explanation**

The installation of the ETE™ capture facility subtask which supports the ETE™ response time collector's diagnostic trace function failed.

**System action**

ETE™ subsystem initialization continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0010: OMEGAMON® SCHEDULED CSA DUMP IN PROGRESS**

### **Explanation**

The ETE™ dump was started.

### **System action**

An SVC DUMP initiated.

### **User response**

Wait for the dump to complete.

## **ETE0011: OMEGAMON® SCHEDULED CSA DUMP COMPLETE**

### **Explanation**

The ETE™ dump completed.

### **System action**

The SVC DUMP for the ETE™ subsystem storage completed.

### **User response**

Make a tape copy of the ETE™ dump from the SYS1.DUMPnn data set and contact IBM® Software Support.

## **ETE0013: VERBOSE MODE IS ALREADY ON**

### **Explanation**

VERBOSE mode is already in effect; the VERBOSE argument of the ETE™ command that was entered is discarded.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0015: VERBOSE MODE IS NOT ON**

### **Explanation**

VERBOSE mode is not in effect; the NONVERBOSE argument of the ETE™ command that was entered is discarded.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0016: VERBOSE MODE IS OFF**

### **Explanation**

VERBOSE mode was turned off.

**System action**

ETE™ operates in normal API mode.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0017: COMMAND BUFFER COULD NOT BE ACQUIRED****Explanation**

A buffer in which to format an MVS MODIFY command to the ETE™ address space to start the ETE™ diagnostic trace was not acquired.

**System action**

The ETE™ diagnostic trace is not started.

**User response**

Increase the REGION= parameter on the EXEC JCL statement of the ETE™ address space JCL procedure. Then terminate and restart ETE™ with the larger region.

**ETE0018: ETE™ ADDRESS SPACE IS NOT EXECUTING****Explanation**

The MVS MODIFY command to the ETE™ address space to start the ETE™ diagnostic trace was not submitted because the ETE™ address space was not executing.

**System action**

The ETE™ diagnostic trace is not started.

**User response**

Restart the ETE™ address space. If the ETE™ address space abended, ensure that a dump was obtained by including a SYSMDUMP DD statement in the ETE™ address space JCL procedure before calling IBM® Software Support.

**ETE0019: ADHT GETMAIN FAILURE****Explanation**

A GETMAIN for common storage above 16M failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Contact IBM® Software Support.

**ETE0030: VERSION ## CMD PREF STATUS INST TYPE****Explanation**

This is a header line for the ETE0031 messages that follow.

**System action**

None.

## User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## ETE0031: *Vvvvnn ETE™aaabb status type*

### Explanation

This is a detail line showing ETE™ system information. This message repeats for each ETE™ subsystem installed in the z/OS® operating environment. For each system, it shows the follows:

#### *vvv*

Version number.

#### *nn*

Unique identifier (defaults to 0).

#### *aaabb*

Command suffix.

#### *status*

Status, which is one of the following:

- **ACTIVE:** ETE™ either currently has users or was installed statically.
- **INACTIVE:** ETE™ currently has no users and has become dormant, freeing almost all storage and using almost no CPU cycles.

#### *type*

Install type, which is one of the following:

- **DYNAMIC:** ETE™ will become inactive when the last user product removes itself as an ETE™ user.
- **STATIC:** ETE™ remains active until terminated with the ETE™ QUIESCE command.

### System action

None.

## User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## ETE0040: JOBNAME ASID TCB TYPE

### Explanation

This is a header line for the ETE0041 messages that follow.

### System action

None.

## User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## ETE0042: NO USERS FOUND

### Explanation

This message is a response to the ETE™ USERS command and indicates that ETE™ has no active request for product response time monitoring.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0050: REMOVE REQUEST: RETURN CODE=*nn*, SENSE CODE=*xxxxxxxx*****Explanation**

In processing an ETE™ QUIESCE command, a REMOVE request created the following:

*nn*

Non-zero return code. See “[ETE return codes and sense codes](#)” on page 2394.

*xxxxxxxx*

Sense code. See “[REMOVE request error](#)” in “[ETE return codes and sense codes](#)” on page 2394.

**System action**

The ETE™ quiesce process continues.

**User response**

Submit a copy of the z/OS® system log with this message, and any associated SVC DUMP and LOGREC data, to IBM® Software Support.

**ETE0051: QUIESCE COMPLETE****Explanation**

ETE™ removes itself from the z/OS® operating environment.

**System action**

None.

**User response**

Perform the activities that necessitated the removal of ETE™ from the z/OS® operating environment.

**ETE0052: QUIESCE ALREADY IN PROCESS****Explanation**

An ETE™ QUIESCE command was received while processing of a prior QUIESCE command was still in progress.

**System action**

The later ETE™ QUIESCE command is ignored.

**User response**

Wait for the initial QUIESCE command to finish.

**ETE0060: PRIVATE STORAGE GETMAIN FAILURE (CRWA)****Explanation**

A GETMAIN for private area storage above 16M failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Increase the REGION= parameter on the EXEC JCL statement of the ETE™ address space JCL procedure; then terminate and restart ETE™ with the larger region.

**ETE0061: TCRB MAINTENANCE MODULE LOAD FAILURE****Explanation**

The load of the TCRB maintenance module from the ETE™ address space STEPLIB library failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Consult the z/OS® system log for the reason of the load failure.

**ETE0062: COMMON STORAGE GETMAIN FAILURE (CRCB)****Explanation**

A GETMAIN for common storage above 16M failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Contact IBM® Software Support.

**ETE0063: COMMON STORAGE GETMAIN FAILURE (CUWX)****Explanation**

A GETMAIN for common storage above 16M failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Contact IBM® Software Support.

**ETE0064: COMMON STORAGE GETMAIN FAILURE (CUWH)****Explanation**

A GETMAIN for common storage above 16M failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Contact IBM® Software Support.

## **ETE0065: VTAM® I/O BUFFER SIZE COULD NOT BE DETERMINED**

### **Explanation**

The VTAM® I/O buffer size was not determined because VTAM® control blocks were either corrupted or changed by VTAM® maintenance.

### **System action**

ETE™ address space and subsystem initialization is aborted.

### **User response**

Contact IBM® Software Support.

## **ETE0070: THE FOLLOWING ETE™ COMMANDS ARE AVAILABLE**

### **Explanation**

This is a header line for the output from the ETE™ HELP command.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0071: *ETE\_help\_information\_detail\_line***

### **Explanation**

This is a detail line of the output from the ETE™ HELP command.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0072: SSTB SUBSYSTEM RESET SUCCESSFUL**

### **Explanation**

The ETE™ subsystem RESET command completed successfully.

### **System action**

All ETE™ hooks into VTAM® are completely withdrawn, and all ETE™ storage that can be released is released.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0073: VTAM® INTERFACES RESTORED**

### **Explanation**

This message confirms that the ETE™ subsystem RESET command withdrew all ETE™ hooks.

**System action**

All ETE™ hooks into VTAM® have been completely withdrawn.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0074: UNABLE TO RESTORE VTAM® INTERFACES****Explanation**

The ETE™ subsystem RESET command was unable to withdraw ETE's hooks, probably because additional hooks were established after ETE's.

**System action**

ETE™ subsystem RESET command processing terminates.

**User response**

None. This message is issued in conjunction with ETE0075.

**ETE0075: RESET COMMAND NOT PERFORMED****Explanation**

This message confirms that ETE™ subsystem RESET command processing was unsuccessful.

**System action**

ETE™ subsystem RESET command processing terminates.

**User response**

Issue a system stand-alone dump and contact IBM® Software Support.

**ETE0076: RESET NOT REQUIRED, SSTB SUBSYSTEM NOT FOUND****Explanation**

The ETE™ subsystem RESET command determined that ETE's hooks were not present.

**System action**

ETE™ subsystem RESET command processing terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0078: ETE™ DIAGNOSTIC TRACE STARTED****Explanation**

The ETE™ subsystem TRACEON command started the ETE™ diagnostic trace function.

**System action**

Recording of ETE™ diagnostic trace entries into the ETE™ diagnostic trace table commences.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0079: ETE™ DIAGNOSTIC TRACE STOPPED****Explanation**

The ETE™ subsystem TRACEOFF command stopped the ETE™ diagnostic trace function.

**System action**

Recording of ETE™ diagnostic trace entries into the ETE™ diagnostic trace table terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0080: ETE™ ADDRESS SPACE COMMAND ABENDED****Explanation**

An abend occurred during the processing of an ETE™ subsystem command.

**System action**

The ETE™ subsystem command interface captures diagnostic information and recovers from the error.

**User response**

If the ETE™ subsystem command abends consistently, use the MVS DUMP command to dump the ETE™ address space and call IBM® Software Support.

**ETE0081: ETE™ ADDRESS SPACE STARTUP FAILED—NOT APF AUTHORIZED****Explanation**

ETE™ address space startup failed because ETE™ library is not APF-authorized.

**System action**

ETE™ address space startup task terminated.

**User response**

Make sure the ETE™ library is an APF-authorized library.

**ETE0082: ETE™ ADDRESS SPACE STARTUP FAILED—RECOVERY COULD NOT BE ESTABLISHED****Explanation**

ETE™ address space startup failed due to failure of the ESTAE recovery environment set up.

**System action**

The ETE™ address space startup task terminated.

**User response**

Obtain OMEGAMON® debug screen outputs and contact IBM® Software Support for diagnosis.

## **ETE0083: ETE™ ADDRESS SPACE STARTUP FAILED—UNSUPPORTED ENVIRONMENT**

### **Explanation**

ETE™ address space startup failed due to unsupported z/OS® or ACF/VTAM environment.

### **System action**

The ETE™ address space startup task terminated.

### **User response**

Make sure that the ETE™ library is APF-authorized. Make sure that the ACF/VTAM started and is active. Make sure that the ACF/VTAM release level is a supported version of VTAM®.

## **ETE0084: ETE™ ADDRESS SPACE STARTUP FAILED—INSUFFICIENT PRIVATE STORAGE AVAILABLE**

### **Explanation**

ETE™ address space startup failed due to insufficient private virtual storage.

### **System action**

The ETE™ address space startup task terminated.

### **User response**

Increase the private region size of the REGION parameter on the EXEC statement, and restart the ETE™ startup task.

## **ETE0086: ETE™ ADDRESS SPACE TERMINATED BY SUBSYSTEM QUIESCE**

### **Explanation**

The ETE™ address space was terminated as the result of an ETE™ QUIESCE command.

### **System action**

The ETE™ address space is terminated and all allocated private and ECSA storage is freed. All response time monitoring activities stop and all OMEGAMON® products stop reporting response time data.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. You must restart the ETE™ address space to resume response time monitoring.

## **ETE0087: ETE™ ADDRESS SPACE TERMINATED BY STOP COMMAND**

### **Explanation**

The ETE™ address space was terminated as the result of a stop command received from the z/OS® console.

### **System action**

The ETE™ address space is terminated and all allocated private and ECSA storage is freed. Standard response time monitoring activities performed by the OMEGAMON® continue, but multi-session manager support is unavailable.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. You must restart the ETE™ address space to resume multi-session manager support.

## **ETE0088: COMMAND ACCEPTED**

### **Explanation**

The MVS MODIFY command entered from the system console was accepted.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0089: COMPLETE**

### **Explanation**

This is the output message trailer for an ETE™ address space command.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0090: ETE™ STARTUP INSTALL REQUEST FAILED: RC=*nn*, SC=*xxxxxxxx***

### **Explanation**

The request to statically install ETE™, resulted in the following:

*nn*

Non-zero return code. See [“ETE return codes and sense codes” on page 2394](#).

*xxxxxxxx*

Sense code. See “REMOVE request error” in [“ETE return codes and sense codes” on page 2394](#).

### **System action**

ETE™ does not install.

### **User response**

Submit a copy of the z/OS® system log with this message, and any associated SVC DUMP and LOGREC data, to IBM® Software Support.

## **ETE0091: ETE™ V620 SUCCESSFULLY INITIALIZED**

### **Explanation**

ETE™ was statically installed successfully. ETE™ will not become inactive when it has no users. You can deactivate ETE™ only with the ETE™ QUIESCE command.

**System action**

None.

**User response**

You can now start user products.

**ETE0092: ETE™ V620 ADDRESS SPACE ALREADY EXECUTING****Explanation**

The ETE™ Version 6.2.0 address space that just started is terminating because there already was an ETE™ 6.2.0 address space with the same subsystem identifier started and running. Only one ETE™ 6.2.0 address space with a specific subsystem identifier can run at a time.

**System action**

The ETE™ 6.2.0 address space that just started terminates. The running ETE™ 6.2.0 address space is not affected.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0094: TRACE TABLE GETMAIN FAILURE****Explanation**

The ETE™ startup task could not obtain ECSA storage for the diagnostic trace table. The diagnostic trace is not required for normal ETE™ operation.

**System action**

ETE™ address space initialization continues. However, the diagnostic trace is disabled.

**User response**

If the trace is needed for problem determination, make sure that enough ECSA storage is available and restart the ETE™ address space.

**ETE0095: INVALID ETE™ ADDRESS SPACE COMMAND****Explanation**

The MVS MODIFY command entered from the z/OS® console is either not recognized or not supported.

**System action**

None.

**User response**

Make sure the command is valid and check the command syntax.

**ETE0100: OMEGAMON® *job\_name* RSP EOT REMOVE REQUEST: RETURN CODE=*nn*, SENSE CODE=*xxxxxxxx*****Explanation**

A REMOVE request issued at end-of-task failed prior to task termination. The message shows the following information:

*job\_name*

Jobname or started task name of the user product.

**nn**

Non-zero return code. See [“ETE return codes and sense codes” on page 2394](#).

**xxxxxxx**

Sense code. See “REMOVE request error” in [“ETE return codes and sense codes” on page 2394](#).

### **System action**

None.

### **User response**

Make a copy of the z/OS® system log with this message, and any associated SVC DUMP and LOGREC data. Contact IBM® Software Support.

## **ETE0101: ETE™ COULD NOT BE STARTED. VTAM® NOT INITIALIZED OR VTAM® IS AT AN UNSUPPORTED LEVEL.**

### **Explanation**

ETE™ could not start because either VTAM® was not initialized or VTAM® was at an unsupported level.

### **System action**

ETE™ discontinues initialization.

### **User response**

If VTAM® was not initialized, wait for VTAM® to initialize and restart ETE™. If VTAM® was already initialized, call IBM® Software Support.

## **ETE0110: ADD FAILED FOR *luname*—NO MULTISESSION MGR INFO PRESENT**

### **Explanation**

This message appears only when the ETE™ subsystem is in verbose mode and an ADD request failed for a virtual terminal because ETE™ did not collect any information about the virtual session between the virtual terminal and the application.

### **System action**

The ADD request fails.

### **User response**

None, if the ETE™ address space was started after IPL time and virtual sessions already existed at the time that it was started.

## **ETE0111: ADD FAILED FOR *luname*—LU CURRENTLY IS IN CONCT STATE**

### **Explanation**

This message appears only when the ETE™ subsystem is in verbose mode and an ADD request failed for a switched LU which is currently not connected to the network.

### **System action**

The ADD request fails.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0112: ADD REQUEST FAILED—ETE ADDRESS SPACE IS NOT EXECUTING**

### **Explanation**

This message appears only when the ETE™ subsystem is in verbose mode and an ADD request failed because the ETE™ address space is not executing.

### **System action**

The ADD request fails.

### **User response**

Restart the ETE™ address space. If the ETE™ address space abended, ensure that a dump was obtained by including a SYSMDUMP DD card in the ETE™ address space JCL procedure before contacting IBM® Software Support.

## **ETE0113: VETE request REQUEST FAILED: RC=xxxxxxxx, SC=xxxxxxxx**

### **Explanation**

An automatic ADD or DELETE request invoked by the session monitor facility failed with the reported return and sense codes. This message is issued only in verbose mode.

### **System action**

The ADD or DELETE request fails.

### **User response**

If the Session Monitor command abends consistently, use the MVS DUMP command to dump the ETE™ address space and call IBM® Software Support.

## **ETE0114: ATTACH OF COMMAND INTERFACE SUBTASK FAILED**

### **Explanation**

The ETE™ address space command interface subtask attach failed.

### **System action**

ETE™ address space and subsystem initialization is aborted.

### **User response**

Contact IBM® Software Support.

## **ETE0115: ATTACH OF TCRB MAINTENANCE SUBTASK FAILED**

### **Explanation**

The ETE™ address space TCRB/XLE maintenance subtask attach failed.

### **System action**

ETE™ address space and subsystem initialization is aborted.

### **User response**

Contact IBM® Software Support.

## **ETE0116: IDENTIFY OF TCRB MAINTENANCE SUBTASK E.P. FAILED**

### **Explanation**

The ETE™ address space TCRB/XLE maintenance subtask entry point identify failed.

### **System action**

ETE™ address space and subsystem initialization is aborted.

### **User response**

Contact IBM® Software Support.

## **ETE0117: ADD FAILED, SLU=*s luname* PLU=*p luname* RC=*xxxxxxxx* SC=*xxxxxxxx***

### **Explanation**

An ADD request failed for the reason specified in the displayed return code and sense code. This message is issued only in verbose mode.

### **System action**

The ADD request fails.

### **User response**

Respond as the return and sense codes indicate. See “ADD request errors” in [“ETE return codes and sense codes” on page 2394](#).

## **ETE0120: LOCATE FOR MODULE *module\_name* ENTRY POINT *entry\_point\_name***

### **Explanation**

A required VTAM® module was successfully located.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **ETE0121: LOCATE FOR MODULE *module\_name* FAILED**

### **Explanation**

ETE™ was unable to locate a required VTAM® module.

### **System action**

ETE™ startup fails.

### **User response**

Contact IBM® Software Support.

## **ETE0122: UNABLE TO LOCATE VTAM® MODULE TABLE**

### **Explanation**

ETE™ experienced an internal error while locating a required VTAM® module.

### **System action**

ETE™ startup fails.

### **User response**

Contact IBM® Software Support.

## **ETE0123: KETAEVML GETMAIN FAILURE**

### **Explanation**

ETE™ was unable to getmain enough working storage.

### **System action**

ETE™ startup fails.

### **User response**

Increase the region parameter on the ETE™ startup JCL. If symptom persists, contact IBM® Software Support.

## **ETE0200: DR EXCLUSION LIST PROCESSING COMPLETE. RC=xxxxxxxx**

### **Explanation**

ETE™ completed processing the device DR exclusion list option for the ETE™ address space.

### **System action**

ETE™ address space initialization continues.

### **User response**

See previous messages issued for diagnosis.

## **ETE0201: OPEN FAILED RKANPARU DATA SET MEMBER *mbrname***

### **Explanation**

ETE™ is unable to process member *mbrname* in the RKANPARU partitioned data set because of an open error.

### **System action**

ETE™ address space initialization continues.

### **User response**

Determine the cause of the open error. For example, check data set specifications and security authorization.

## **ETE0202: DR EXCLUSION LIST KETXDLDR NOT FOUND**

### **Explanation**

ETE™ is unable to process the device DR exclusion list in the RKANPARU partitioned data set because it was not found.

**System action**

ETE™ address space initialization continues.

**User response**

None.

**ETE0203: I/O ERROR ENCOUNTERED PROCESSING RKANPARU DATA SET  
MEMBER *mbrname*****Explanation**

ETE™ is unable to process member *mbrname* in the RKANPARU partitioned data set because an I/O error was encountered.

**System action**

ETE™ address space initialization continues.

**User response**

Determine cause of the I/O error. For example, check data set specifications and security authorization.

**ETE0204: SYNTAX ERROR ENCOUNTERED PROCESSING DR EXCLUSION LIST  
KETXDLDR****Explanation**

ETE™ is unable to process the device exclusion list in the RKANPARU partitioned data set because of a device name specification error.

**System action**

ETE™ address space initialization continues.

**User response**

Ensure that member KETXDLDR in the RKANPARU partitioned data set is syntactically correct.

**ETE0205: ESQA STORAGE GETMAIN ERROR (DXLHT)****Explanation**

A GETMAIN request for ESQA storage failed.

**System action**

ETE™ address space initialization continues.

**User response**

Increase the ESQA storage and restart the ETE™ address space.

**ETE0206: INVALID DXLHT ENCOUNTERED****Explanation**

An internal logic error occurred in the ETE™ address space.

**System action**

ETE™ address space abends with U700.

## ETE0207: ESQA STORAGE GETMAIN ERROR (DXLHTE)

### Explanation

A GETMAIN request for ESQA storage failed.

### System action

ETE™ address space initialization continues.

### User response

Increase the ESQA storage and restart the ETE™ address space.

## ETE0208: INVALID DXLHTE ENCOUNTERED

### Explanation

An internal logic error occurred in the ETE™ address space.

### System action

ETE™ address space abends with U701.

## ETE0209: DXLHTE=*address* SLUNAME=*sluname*

### Explanation

Output display from the diagnostic command DUMPDXL where *address* is the address of the DXLHTE and *sluname* is the SLUNAME of the device in the device exclusion list.

### System action

None.

### User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## ETE0210: DR EXCLUSION LIST PROCESSING FAILED: RC=*xxxxxxxx* SC=*xxxxxxxx*

### Explanation

ETE™ is unable to process the device exclusion list in the RKANPARU partitioned data set.

- If RC=4, these sense codes are returned:

**X'00000004'**

Insufficient private memory. Increase the REGION= parameter on the EXEC JCL statement of the ETE™ address space JCL procedure. Stop and restart the ETE™ address space with the larger region.

**X'00000008'**

RKANPARU partitioned data set not allocated to the ETE™ address space.

**X'0000000C'**

KETXDLDR not found in the RKANPARU partitioned data set.

- If RC=8, these sense codes are returned:

**X'00000004'**

Open failed for RKANPARU data set.

**X'00000008'**

I/O error occurred processing RKANPARU data set.

**X'0000000C'**

Abend occurred processing RKANPARU data set.

**X'00000010'**

ESTAE failed processing RKANPARU data set.

- If RC=C, these sense codes are returned:

**X'00000004'**

GETMAIN failed for DXLHT.

- If RC=10, these sense codes are returned:

**X'00000004'**

GETMAIN failed for DXLHTE.

**X'00000008'**

Syntax error occurred while parsing KETXDLDR.

**X'0000000C'**

Abend occurred while parsing KETXDLDR.

**X'00000010'**

GETMAIN failed for private memory while parsing KETXDLDR.

**X'00000014'**

ESTAE failed while parsing KETXDLDR.

### System action

ETE™ address space initialization continues.

### User response

See previous messages issued for diagnosis.

## **ETE0211: RC=*xxxxxxxx* hexsluname length position**

### Explanation

Output display following ETE0204 output with the following diagnostic information.

*xxxxxxxx*

Return code which may be:

**00000008**

Internal error.

**0000000C**

Invalid SLUNAME specification.

**00000010**

Invalid SLUNAME specification.

**00000014**

Invalid SLUNAME specification.

**00000018**

Internal error.

**0000001C**

Internal error.

***hexsluname***

Hexadecimal representation of failing SLUNAME operand.

***length***

Length of failing operand.

***position***

Position of failing operand in KETXDLDR member data record.

**System action**

None.

**User response**

None.

**ETE0212: NO EXCLUDED DEVICES FOUND**

**Explanation**

The DUMPDXL command was issued, but no excluded devices are specified in the ETE™ address space.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0220: ETE™ SUPPORT IN CICS® ADDRESS SPACE (*asid*) IS ENABLED  
GA(*gwaaddr*) GAL(*gwalen*).**

**Explanation**

CICS® SEND exit (XZCOUT) for ETE™ support is enabled where GA represents the address of the global work area, and GAL represents the length of the global work area.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0221: ETE™ SUPPORT IN CICS® ADDRESS SPACE (*asid*) IS DISABLED**

**Explanation**

CICS® SEND exit (XZCOUT) for ETE™ support is disabled.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**ETE0222: INVALID PARAMETER FOR KETX TRANSACTION IN CICS® ADDRESS SPACE (*asid*). SPECIFY ENABLE, DISABLE, OR STATUS.**

**Explanation**

User entered KETX with unrecognized parameter. The only supported parameters for this transaction are ENABLE, DISABLE, and STATUS.

**System action**

Transaction is ignored.

**User response**

Reenter transaction with correct parameter.

**ETE0223: ENABLING OF ETE™ SUPPORT IN CICS® ADDRESS SPACE (*asid*) HAS FAILED. RC(*xxxx*).**

**Explanation**

Error occurred during exit enable process. RC represents EIBRCODE value after CICS® ENABLE command, which is documented in the CICS® documentation set.

**System action**

CICS® SEND exit is not enabled.

**User response**

Consult CICS® documentation or notify your CICS® administrator. If the problem persists, contact IBM® Software Support.

**ETE0224: DISABLING OF ETE™ SUPPORT IN CICS® ADDRESS SPACE (*asid*) HAS FAILED. RC(*xxxx*).**

**Explanation**

Error occurred during exit disable process. RC represents EIBRCODE value after CICS® DISABLE command, which is documented in the CICS® documentation set.

**System action**

CICS® SEND exit is not disabled.

**User response**

Consult CICS® documentation or notify your CICS® administrator. If the problem persists, contact IBM® Software Support.

**ETE0225: ERROR WHEN EXTRACTING STATUS OF KETXCOUN EXIT IN CICS® ADDRESS SPACE (*asid*). RC(*xxxx*).**

**Explanation**

Error occurred during extraction of the status of ETE™ support in CICS®. RC represents EIBRCODE value after CICS® EXTRACT command, which is documented in the CICS® documentation set.

**System action**

None.

**User response**

Consult CICS® documentation or notify your CICS® administrator. If the problem persists, contact IBM® Software Support.

**ETE0226: ERROR IN CIHT PARAMETER SPECIFICATION****Explanation**

An invalid CIHT size value was entered in the PARM field on the EXEC statement in the ETE™ startup JCL.

**System action**

ETE™ address space initialization continues. The default CIHT size is used.

**User response**

Specify correct value for CIHT size and restart ETE™ if the default size is not sufficient.

**ETE0227: SHUTDOWN CANNOT BE COMPLETED. DISABLE ETE™ SUPPORT IN EVERY CICS® ADDRESS SPACE. THEN REPLY 'Y' TO SHUTDOWN.****Explanation**

ETE™ shutdown routine detected that some CICS® address spaces did not free ETE™ resources at the request of ETE™. This abnormal situation can happen if a CICS® address space with enabled ETE™ support abended.

**System action**

Waits for operator reply.

**User response**

Use CICS® transaction KETX DISABLE in every CICS® address space to disable ETE™ support. Then reply Y to allow ETE™ to terminate. If there are other active ETE™ address spaces, shut them down before disabling ETE™ support in the CICS® address spaces.

**ETE0228: CIHT GETMAIN FAILURE****Explanation**

GETMAIN for common storage above 16M failed.

**System action**

ETE™ address space and subsystem initialization is aborted.

**User response**

Contact IBM® Software Support.

**ETE0229: *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*****Explanation**

Output display at initiating terminal and at master console from CICS® transaction KETX DIAGNOSE. The four hexadecimal values displayed are for diagnostic purposes only.

**System action**

None.

**User response**

Give values to IBM® Software Support if requested.

**ETE0230: ENABLING OF ETE™ SUPPORT IN CICS® ADDRESS SPACE (*asid*) HAS FAILED. CICS® RELEASE *nn* IS NOT SUPPORTED.**

**Explanation**

ETE™ does not currently support CICS® release *nn*.

**System action**

CICS® SEND exit is not enabled.

**User response**

Contact IBM® Software Support.

**ETE0910: EPILOG® IMS™ COLLECTOR FAILED TO OBTAIN TRANSACTION STATISTICS CELL**

**Explanation**

The RTXU collector called the MVS GETCELL service to obtain a cell in which to store data. The GETCELL routine returned a nonzero return code.

**System action**

The EPILOG® collector terminates with a U0150 abend.

**User response**

Restart the EPILOG® collector and see if it recurs. If the message persists, call IBM® Software Support.

**ETE0920: EPILOG/IMS TRANSACTION STATISTICS RECORD IS TRUNCATED**

**Explanation**

The VSAM record being written is longer than the maximum VSAM record length specified.

**System action**

Processing continues.

**User response**

Redefine the EPILOG® data store with a larger record length. See the product installation documentation for details.

**ETE093: VCHT GETMAIN FAILURE**

**Explanation**

The ETE™ address space startup task could not obtain storage for the VCHT table from private virtual storage below the 16M line. The default REGION size value of your data center or the REGION size specified on the ETE™ start up task JCL may be insufficient.

**System action**

The ETE™ address space terminates.

**User response**

Increase the REGION size and restart the ETE™ address space.

## IA messages

Messages that begin with the IA prefix are associated with Classic OMEGAMON® components.

### **IA0001: INVALID DELIMITER**

#### **Explanation**

The IANL command was entered with incorrect syntax.

#### **System action**

The command is commented out.

#### **User response**

Correct the syntax error and re-enter the command.

### **IA0002: WORKLOAD NAME MUST BE 8 CHARACTERS OR LESS**

#### **Explanation**

A workload name exceeding eight characters was entered.

#### **System action**

The command is commented out.

#### **User response**

Correct the workload name and re-enter the command.

### **IA0003: VALID FORMATS ARE: workload,LIST workload,DELETE GROUP,LIST**

#### **Explanation**

Review the appropriate explanation for your product.

#### **OMEGAMON II for CICS**

The IANL LIST or the DELETE command was entered with incorrect syntax.

#### **All other products**

User entered an IANL command with incorrect usage of the comma. Correct syntax is displayed.

#### **System action**

The command is commented out.

#### **User response**

Correct the syntax error and re-enter the command.

### **IA0004: VALID FORMATS ARE: GROUP=*groupname* PG=*nnnn* (\* not applicable to OMEGAMON II for CICS) LIST=ALL**

#### **Explanation**

An IANL command was entered with incorrect use of the equal sign. The correct syntax is displayed.

#### **System action**

The command is commented out.

**User response**

Correct the syntax error and re-enter the command.

**IA0005: PERFORMANCE GROUPS MUST BE SPECIFIED BY NUMBER****Explanation**

User attempted to select a performance group as a monitored workload (using the PG=performance group command) but entered a non-numeric name for the performance group. The performance group must be specified by number.

**System action**

Command is commented out.

**User response**

Correct the syntax error and re-enter the command.

**IA0006: GROUP NAMES CANNOT BE NUMERIC****Explanation**

The user attempted to select a group workload to be monitored (using the GROUP={Groupname} command), but entered a numeric name for the group. The group workload must be specified by a non-numeric name.

**System action**

The command is commented out.

**User response**

Correct the syntax error and re-enter the command.

**IA0007: VALID FORMAT FOR LIST IS: cccccccc****Explanation**

The IANL LIST command was entered incorrectly.

**System action**

The command is commented out and a model of the correct syntax is shown.

**User response**

Correct the syntax error and re-enter the command.

**IA0008: FORMAT FOR DEFINING A GROUP IS:****Explanation**

GROUP=Groupname=(Member1,Member2,...)

**Explanation**

The user attempted to define a group workload, but did not use the correct syntax.

**System action**

The command is commented out and a model of the correct syntax is shown.

**User response**

Correct the syntax error and re-enter the command.

## **IA0009: GROUPS CANNOT CONTAIN BOTH TASK NAMES AND PG NUMBERS**

### **Explanation**

The user attempted to define a group workload, but mixed task names and PG numbers in the member list.

### **System action**

The command is commented out.

### **User response**

Correct the syntax error and re-enter the command.

## **IA0010: GROUP MEMBER NAMES MUST BE 1 TO 8 CHARACTERS**

### **Explanation**

The user attempted to define a group workload, but entered a member name greater than eight characters. The correct syntax is: `GROUP=Groupname=(member list)`.

### **System action**

The command is commented out.

### **User response**

Correct the syntax error and re-enter the command.

## **IA0011: GROUP (*name*) IS NOT DEFINED**

### **Explanation**

The user attempted to select a group workload to be monitored (using the command `IANL GROUP=Groupname`), but the group has not been defined.

### **System action**

The command is ignored.

### **User response**

Define the group workload using the command `GROUP=Groupname=(member list)` and re-enter the group selection command.

## **IA0012: VALID PREFIXES FOR IANL COMMAND ARE: S - Summary level display D - Detail level display**

### **Explanation**

The IANL command was entered with an invalid prefix.

### **System action**

The command is ignored.

### **User response**

Correct the syntax and re-enter the command.

## **IA0013: VALID SUFFIXES FOR IANL COMMAND ARE: P - Show impactors by Performance group PD - Show impactors by Performance group detailed by job**

### **Explanation**

The IANL command was entered with an invalid suffix.

### **System action**

The command is ignored.

### **User response**

Correct the syntax and re-enter the command.

## **IA0014: GROUPS MUST CONTAIN AT LEAST 1 MEMBER**

### **Explanation**

The user attempted to define a group workload, but did not include any members in the member list. The correct syntax is: GROUP=*Groupname*=(*member list*).

### **System action**

The command is commented out.

### **User response**

Correct the syntax error and re-enter the command.

## **IA0015: MAXIMUM NUMBER OF CONTENTION ANALYSES IS 5**

### **Explanation**

The user attempted to set the number of workloads to be monitored at more than five. The maximum number of workloads to be monitored is five.

### **System action**

The IANC command is rejected and commented out.

### **User response**

Review the appropriate user response for your product.

### **OMEGAMON II for CICS**

Enter a number from 1 to 5.

### **All other products**

None.

## **IA0100: COLLECTOR HAS NOT BEEN STARTED**

### **Explanation**

Certain commands require active data collection when they are issued. Such a command was entered before data collection was started.

### **System action**

The command is ignored.

### **User response**

Start data collection and re-enter the command.

## **IA0101: COMMAND NOT VALID ONCE COLLECTOR STARTED**

### **Explanation**

Certain commands (such as IANQ, which changes the enqueue sampling interval, and IANC, which sets the number of workloads that can be monitored) require that data collection be stopped when they are issued. Such a command was entered while data collection was active.

### **System action**

The command is ignored.

### **User response**

Stop data collection and re-enter the command.

## **IA0102: ENTRY NOT FOUND**

### **Explanation**

The IANL LIST or DELETE command was entered for a workload that was not being monitored.

### **System action**

The command is ignored and commented out.

### **User response**

Correct the workload name and re-enter the command.

## **IA0103: NO ROOM IN TABLE TO ADD ENTRY**

### **Explanation**

The user attempted to start monitoring a workload and exceeded the maximum number of workloads that can be monitored.

### **System action**

The command is ignored.

### **User response**

Delete a workload from monitoring or increase the maximum number of workloads with the IANC command.

## **IA0104: COLLECTOR HAS ABENDED**

### **Explanation**

The collector module has abended, and therefore the workloads under analysis are no longer being monitored.

### **System action**

Diagnostic information is displayed.

### **User response**

Log the diagnostic information; issue the MOD command and log the additional diagnostic information; exit using the IANL END command; contact IBM Software Support. For a definition of the user ABEND codes, see the EB, EP, and EU Abend Codes appendix.

## **IA0105: JOB HAS ENDED**

### **Explanation**

Review the appropriate explanation for your product.

### **OMEGAMON II for CICS**

Impact analysis (OMEGAMON II for Db2) is not monitoring the workload because the workload is no longer running.

### **All other products**

Monitoring of the workload has stopped because the workload is no longer running.

### **System action**

The command is commented out.

### **User response**

None.

## **IA0109: NO MORE THAN 5 SHORT TERM INTERVALS PER LONG TERM INTERVAL**

### **Explanation**

The user attempted to define the long-term interval but entered a number larger than five.

### **System action**

The IACL command is rejected.

### **User response**

Correct the entry and re-enter the command.

## **IA0110: JOB IS NOT A CICS® REGION**

### **Explanation**

The monitoring of a job was requested for a region that is not in CICS®.

### **System action**

The command is ignored.

### **User response**

Re-enter the command with a CICS® job.

## **IA0111: AT® LEAST ONE MEMBER IS NOT A CICS® REGION**

### **Explanation**

The group was monitored, but one or more group members may be incorrect.

### **System action**

None.

### **User response**

Verify that all group members are correct.

## **IA0112: INTERNAL ERROR IN CVAL ROUTINE**

### **Explanation**

This message is the result of an internal error or the corruption of virtual storage.

### **System action**

OMEGAMON II for Db2 attempts to continue command processing.

### **User response**

Contact IBM Software Support.

## **IA0113: MAXIMUM VALUE IS 10**

### **Explanation**

The user attempted to set the value of the enqueue sampling interval (which is defined by multiples of the normal sampling interval) but entered a value greater than 10. (Such values result in a sampling interval that is too infrequent to be significant.) The maximum number of intervals is 10.

### **System action**

The IANQ command is rejected and commented out.

### **User response**

Correct the entry and re-enter the command.

## **IA0200: COLLECTOR HAS ENDED**

### **Explanation**

The data collector stopped in response to a user command.

### **System action**

Review the appropriate system action for your product.

### **OMEGAMON II for CICS**

OMEGAMON II for Db2 processes the command, and comments it out.

### **All other products**

Command is accepted and commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0201: WORKLOAD HAS BEEN ADDED**

### **Explanation**

Monitoring of the workload has begun.

### **System action**

None.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0202: WORKLOAD HAS BEEN DELETED**

### **Explanation**

The workload has been deleted in response to a user command.

### **System action**

Review the appropriate system action for your product.

### **OMEGAMON II for CICS**

OMEGAMON II for Db2 processes the command, and comments it out.

### **All other products**

Command is accepted and commented out.

### **User response**

None.

## **IA0203: LONG TERM DISPLAY WILL REPRESENT *nn* SHORT-TERM INTERVALS**

### **Explanation**

Informs the user of the long term interval.

### **System action**

The IACL command is accepted and commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0204: SHORT TERM DISPLAY WILL BE CLEARED EVERY *nn* MINUTES**

### **Explanation**

Informs the user of the short-term interval.

### **System action**

The IACS command is accepted and commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0205: THE DATA COLLECTOR SAMPLE TIME = *n.n* SECONDS**

### **Explanation**

Informs the user of the sampling interval (in seconds).

### **System action**

The IAST command is accepted and commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0206: PLOT PERCENTAGE THRESHOLD IS *nn*%**

### **Explanation**

Informs the user of the plot threshold. (Contending workloads comprising less than *nn*% of the contention will not be displayed).

### **System action**

The command is accepted.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0207: IA TO SUPPORT UP TO *n* CONTENTION ANALYSES**

### **Explanation**

Informs the user of the maximum number of workloads that can be monitored.

### **System action**

The IANC command is accepted and commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0208: ENQUEUE DATA COLLECTION ENABLED/DISABLED {CYCLE = *nn*}**

### **Explanation**

Informs the user whether enqueue data collection is enabled or disabled. If enqueue collection is enabled, the message also shows the frequency with which enqueue data is collected (as a multiple of sampling intervals).

### **System action**

The IANQ command is accepted and commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0209: GROUP HAS BEEN DEFINED**

### **Explanation**

The user successfully defined a group workload.

### **System action**

The command is commented out.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0215: NO WORKLOADS UNDER ANALYSIS**

### **Explanation**

The user entered the IANL LIST=ALL command but all workloads have been deleted from analysis. (The collector is still running.)

### **System action**

None.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **IA0216: NO GROUPS ARE DEFINED**

### **Explanation**

The user entered the command IANL GROUP,LIST but no group workloads have been defined. (The collector is still running.)

### **System action**

None.

### **User response**

Review the appropriate user response for your product.

#### **OMEGAMON II for CICS**

Define the workloads and restart.

#### **All other products**

None.

## **IA0217: IA COLLECTION TASK TIMES OUT AFTER n MINUTES**

### **Explanation**

Informs the user of the current time-out interval. If the time-out facility has been turned off, the message is **IA COLLECTION TASK WILL NOT TIME OUT**.

### **System action**

The IATO command is accepted.

### **User response**

None.

## **IA0301: PERFORMANCE GROUP OPERANDS UNACCEPTABLE IN GOAL MODE**

### **Explanation**

Performance group information is not available under the Work Load Manager goal mode.

### **System action**

The command terminates.

## IN messages

Messages that begin with the IN prefix are associated with Classic OMEGAMON® components.

### **IN0004: THE KEYWORD FLAGGED ABOVE IS UNKNOWN**

#### **Explanation**

A keyword operand was misspelled or is not valid on this command.

#### **System action**

The command does not execute.

#### **User response**

Correct the command and re-enter.

### **IN0005: PARAMETER WAS EXPECTED BUT NOT FOUND**

#### **Explanation**

A keyword with a parameter list was specified, but the parameter list did not contain enough parameters.

#### **System action**

The command does not execute.

#### **User response**

Correct the command and re-enter.

### **IN0006: THIS PARAMETER MUST BE NUMERIC**

#### **Explanation**

A parameter was specified which must be numeric but is not.

#### **System action**

The command does not execute.

#### **User response**

Correct the command and re-enter.

### **IN0007: ')' MISSING AFTER FIRST PARAMETER**

#### **Explanation**

A ')' was expected after the first parameter and was not found.

#### **System action**

The command does not execute.

#### **User response**

Correct the command format and retry.

## **IN0050: *data set name* FAILED TO ALLOCATE**

### **Explanation**

An error occurred during dynamic allocation of the data set name specified in the MLIB DSN list.

### **System action**

The command continues if there are other data set names in the MLIB DSN list.

### **User response**

Check the reason for the dynamic allocation error and correct accordingly. Message IN0051 might accompany this message.

## **IN0051: DAIR CODE = *rc***

### **Explanation**

The Dynamic Allocation Interface Routine (DAIR) return code is displayed.

### **System action**

Same as message IN0050.

### **User response**

Same as message IN0050.

## **IN0060: *data set name* FAILS MLIB REQUIREMENTS**

### **Explanation**

The data set failed the MLIB requirement because it neither has a Format 1 DSCB nor is in a load module format. Message IN0061 or IN0062 gives more information on the error.

### **System action**

The command continues if there are other data set names in the MLIB DSN list.

### **User response**

Make sure the correct data set name was specified.

## **IN0061: DATA SET IS NOT LOAD MODULE FORMAT**

### **Explanation**

The MLIB failure was due to the data set not being in a load module format.

### **System action**

The command continues if there are other data set names in the MLIB DSN list.

### **User response**

Only load data sets can be specified on the MLIB command.

## **IN0062: FORMAT1 DSCB COULD NOT BE LOCATED**

### **Explanation**

The data set specified in message IN0060 was not found.

**System action**

The command continues if there are other data set names in the MLIB DSN list.

**User response**

Make sure that the data set exists on the volume as indicated by the system catalog and retry the command.

**IN0070: *data set name* FAILED TO OPEN****Explanation**

The OPEN failed for the data set.

**System action**

The command continues if there are other data set names in the MLIB DSN list.

**User response**

Make sure that OMEGAMON is authorized to use the specified data set.

**IN0080: *data set name* IS NOT OPEN****Explanation**

OMEGAMON tried to close a data set that was not open.

**System action**

CLOSE processing continues for remaining data sets.

**User response**

Call IBM Software Support for assistance.

**IN0081: *data set name* FAILED TO CLOSE****Explanation**

The data set cannot be closed.

**System action**

CLOSE processing continues for the remaining data sets.

**User response**

Investigate why the data set failed to close. If necessary, call IBM Software Support for assistance.

**IN0082: *data set name* FAILED TO DE-ALLOCATE****Explanation**

The data set cannot be de-allocated.

**System action**

Deallocate processing continues for remaining data sets.

**User response**

Investigate why the data set failed to de-allocate by examining the accompanying DAIR code in message IN0083.

### **IN0083: DAIR CODE = rc**

#### **Explanation**

The Dynamic Allocation Interface Routine (DAIR) return code is displayed with message IN0082.

#### **System action**

See message IN0082.

#### **User response**

Refer to the appropriate IBM® manual for a description of the return codes.

### **IN0090: ADD AND DEL MUST NOT BE ISSUED TOGETHER**

#### **Explanation**

The ADD and DEL parameters cannot be issued together in the same MLIB command.

#### **System action**

The commands do not execute.

#### **User response**

Issue ADD and DEL separately.

### **IN0091: *data set name* IS NOT IN THE MLIB DSN LIST**

#### **Explanation**

The data set specified with the delete option of the MLIB minor of INSP was not found in the MLIB list because it was never added or was already deleted.

#### **System action**

The operation is ignored.

#### **User response**

Specify the correct data set name for the delete.

### **IN0092: PREVIOUS LINE WAS TRUNCATED**

#### **Explanation**

The previous display line has been truncated because the line length was exceeded.

#### **System action**

None.

#### **User response**

None.

### **IN0100: cccccc HAS A HIGHER PRIORITY THAN OMEGAMON**

#### **Explanation**

The address space dispatching priority of job cccccc, which is being monitored by INSP, is running at a higher priority than OMEGAMON. This is the jobname specified by the JOB() keyword.

**System action**

INSP attempts to take samples, but will probably detect very little activity in the monitored address space. Any results are incorrect.

**User response**

Run OMEGAMON as a performance group which has a higher priority than the address space being monitored.

**IN0101: cccccc IS NO LONGER RUNNING****Explanation**

INSP was monitoring an address space when the jobname cccccc changed. cccccc is the name specified by the JOB() keyword.

**System action**

Sampling terminates.

**User response**

If you want more data, rerun the job and use a shorter sampling period.

**IN0102: START INVALID, ALREADY SAMPLING****Explanation**

The START keyword was specified on the INSP command when sampling of the target address space was already in progress.

**System action**

The START keyword is ignored.

**User response**

None required.

**IN0103: STOP INVALID, NOT SAMPLING****Explanation**

The STOP keyword was specified on the INSP command when sampling of the target address space was not in progress.

**System action**

The STOP keyword is ignored.

**User response**

None required.

**IN0104: ATTACH FAILED****Explanation**

This is an internal error message.

**System action**

Sampling does not start.

**User response**

Call IBM Software Support for assistance.

**IN0105: ccccccc NOT FOUND****Explanation**

No job with the name ccccccc specified is currently active. <jobname> is the name specified by the JOB() keyword.

**System action**

The new jobname specification is not used.

**User response**

Use the JOB() keyword to specify the name of a running job. If necessary, use OMEGAMON commands such as ALLJ to determine a valid jobname.

**IN0106: SAMPLER TASK HAS ABENDED****Explanation**

This is an internal error message.

**System action**

Sampling terminates and diagnostic information appears.

**User response**

Record the diagnostic information and call IBM Software Support.

**IN0900: \$GMEM FAILED FOR INSP WORKAREA****Explanation**

OMEGAMON was unable to obtain memory for the INSP workarea.

**System action**

The command does not execute.

**User response**

Increase the OMEGAMON® region size to correct the problem.

**IN0901: RETURN CODE *rc* FROM OMPBM INITIALIZATION****Explanation**

An error occurred during INSP initialization.

**System action**

The command does not execute.

**User response**

Call IBM Software Support for assistance.

## **IN0902: INSPECT REQUIRES DEXAN®**

### **Explanation**

To run INSP, the DEXAN® product is required.

### **System action**

The command does not execute.

### **User response**

None.

## **IN0903: LOAD MACRO FAILED FOR OMPBM WITH ABEND=*nnn***

### **Explanation**

INSP module OMPBM could not be loaded.

### **System action**

The command does not execute.

### **User response**

Refer to the IBM® system codes manual for an explanation of the abend code.

## **IN0904: INSPECT ERROR CODE *nn***

### **Explanation**

An internal error occurred on the INSP command. The error code is *nn*.

### **System action**

The command does not execute.

### **User response**

Call IBM Software Support for assistance.

## **KBB messages**

Messages that begin with the KBB prefix are associated with the Tivoli® Management Services: Engine (TMS:Engine) component.

## **KBBCM001: COM1ERROR:*rtncd1, rtncd2, rcpri, rcsec, snsi, rplreq, qualify, rpl6what, luname, mode, convid***

### **Explanation**

An APPCCMD command was not completed by VTAM®, or VTAM® conditionally completed the command. This data is displayed:

- *rtncd1*: The general return code provided in R15.
- *rtncd2*: The conditional completion return code or recovery action return code provided in R0.
- *rcpri*: The primary extended return code.
- *rcsec*: The secondary extended return code.
- *snsi*: The inbound sense data.

- *rplrpq*: The APPCCMD CONTROL= value.
- *qualify*: The APPCCMD QUALIFY= value.
- *rpl6what*: The VTAM® what data received flag.
- *luname*: The destination logical unit name.
- *mode*: The associated logmode.
- *convld*: The conversation id created by VTAM®.

### System action

Depends on the error. The request may continue processing or may be terminated by VTAM®.

### User response

If *rtncd1* is 0 and *rtncd2* is B, conditional completion is indicated for the APPCCMD command. This may or may not indicate an error. The *rcpri* and *rcsec* must then be checked to determine if an error occurred. A *rcpri* value of zero indicates that no error occurred. The *rcsec* field contains a non-zero value that contains the information about the processing of the macro. For example, a successful CNOS request may complete without error, but be negotiated by the partner LU. In such cases *rcsec* is set to X'2' to indicate that negotiation took place.

A non-zero value for *rcpri* indicates abnormal completion of an APPCCMD macro. The *rcpri* and *rcsec* fields contain the information needed to determine the error.

If *rtncd1* has a value greater than zero (usually X4), then that indicates a logic error in the application.

Refer to *z/OS® Communications Server SNA Programmer's LU 6.2 Guide* for an explanation of the values and codes displayed in the KBBM001 message, and recommended actions.

## KCN messages

The messages that begin with the KCN prefix are associated with OMNIMON Base.

Return codes associated with these messages can be found in [“z/OS status codes and return codes” on page 2412](#).

### KCNCA001E: UNABLE TO OBTAIN PRIVATE STORAGE, COUPLING FACILITY COLLECTION NOT AVAILABLE

#### Explanation

This message comes from the OMEGAMON® Subsystem attached subtask designed to issue IXCQUERY requests for CF\_ALLDATA and STR\_ALLDATA information (KCNCFAT). It indicates that working storage for this subtask cannot be obtained. Data collection is terminated.

#### System action

None.

#### User response

Recycle the OMEGAMON® Subsystem associated with this message. If the problem persists, call IBM® Software Support for further assistance.

### KCNCA002E: SUBTASK PARMS INVALID, COLLECTION TERMINATED

#### Explanation

This message comes from the OMEGAMON® Subsystem attached subtask designed to issue IXCQUERY requests for CF\_ALLDATA and STR\_ALLDATA information (KCNCFAT). A parameter area passed to the collection subtask does not have the correct identification text (eyecatcher). The subtask must assume the parameters area has been corrupted. Data collection is terminated.

**System action**

None.

**User response**

Recycle the OMEGAMON® Subsystem associated with this message. If the problem persists, call IBM® Software Support for further assistance.

**KCNCA003E: IXCQUERY XXX\_ALLDATA FAILED  
RC(XXXXXXXX),REASON(XXXXXXXX)****Explanation**

This message comes from the OMEGAMON® Subsystem attached subtask designed to issue IXCQUERY requests for CF\_ALLDATA and STR\_ALLDATA information (KCNCFAT). The XXX in “XXX\_ALLDATA” may be either STR or CF. This message indicates that a severe error occurred while trying to get IXCQUERY data. The return code (RC) and reason code (REASON) from the attempt are documented and can be found in the *IBM® z/OS® MVS™ Programming Sysplex Services Reference* for Return and Reason Codes for IXCQUERY. This message may appear up to 6 times if the problem persists. After 6 attempts the OMEGAMON® Subsystem will stop trying to get this data.

**System action**

None.

**User response**

Verify that the authorized OMEGAMON® Subsystem is running and that the Coupling Facility Resource Management (CFRM) data set is accessible from this LPAR. If the problem persists, call IBM® Software Support for further assistance. If it is running and the problem persists, contact IBM® Software Support for further assistance.

**KCNCA004E: UNABLE TO OBTAIN LARGER XXX\_ALLDATA ANSWER AREA,  
SIZE(XXXXXXXX). COLLECTION NOT AVAILABLE****Explanation**

This message comes from the OMEGAMON® Subsystem attached subtask designed to issue IXCQUERY requests for CF\_ALLDATA and STR\_ALLDATA information (KCNCFAT). The XXX in “XXX\_ALLDATA” may be either STR or CF. The value following SIZE is the storage area size, in hexadecimal, that is needed. Subtask collection is terminated.

**System action**

None.

**User response**

Recycle the OMEGAMON® Subsystem associated with this message. If the problem persists, call IBM® Software Support for further assistance.

**KCNCI001E: UNABLE TO OBTAIN PRIVATE STORAGE, COUPLING FACILITY  
COLLECTION NOT AVAILABLE.****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). Work area storage for this module could not be obtained. The module is terminating and will not be available to support Coupling Facility collection.

**System action**

None.

**User response**

Recycle the OMEGAMON® Subsystem associated with this message. If the message is seen again, call IBM® Software Support for further assistance.

**KCNCI002W: COUPLING FACILITY DATA COLLECTION SUBTASK TERMINATED UNEXPECTEDLY.****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). The collection subtask terminated unexpectedly.

**System action**

None.

**User response**

None. If this message appears frequently, call IBM® Software Support for further assistance.

**KCNCI003E: COUPLING FACILITY DATA COLLECTION SUBTASK START FAILED, RELINQUISHING COLLECTOR STATUS****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). The collection subtask attach failed. This address space will stop trying to collect Coupling Facility data. It will participate as a receiver when another OMEGAMON® Subsystem takes over the collection function.

**System action**

None.

**User response**

None. If this message appears frequently, call IBM® Software Support for further assistance.

**KCNCI004E: ERROR: KCNDLCF FUNCTION PARMS NOT FOUND****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). This is a severe internal error for this function and it cannot continue.

**System action**

None.

**User response**

Recycle the OMEGAMON® Subsystem associated with this message. If this message appears again, call IBM® Software Support for further assistance.

**KCNCI005I: COUPLING FACILITY COLLECTOR SUBTASK STARTED****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). It indicates that this OMEGAMON® Subsystem is collecting Coupling Facility data for the Sysplex.

**System action**

None.

**User response**

None. This is an informational message.

**KCNCI006W: COUPLING FACILITY COLLECTOR STARTING LOCAL COLLECTION****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). The OMEGAMON® Subsystem associated with this message has stopped receiving coupling facility data from the Sysplex collector. It has started collecting data itself for the OMEGAMON® products on this system image.

**System action**

None.

**User response**

This message may appear occasionally if the XCF message processing facility is heavily burdened, or if the collecting OMEGAMON® Subsystem has stalled or failed. If neither message KCNCI007W nor message KCNCI008W is seen shortly, try cancelling the last known collecting OMEGAMON® Subsystem (see message KCNCI005I). If the problem persists, call IBM® Software Support for further assistance.

**KCNCI007I: COUPLING FACILITY COLLECTOR RESUMING PLEX RECEPTION****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). This message indicates that the problem, which caused message KCNCI006W to appear, has been resolved. Another OMEGAMON® Subsystem has begun sending Coupling Facility data and this address space is receiving that data.

**System action**

None.

**User response**

None. This message indicates that a problem state has been resolved. It may also indicate that one of the OMEGAMON® Subsystems in the Sysplex has failed and some action should be taken for that address space.

**KCNCI008I: COUPLING FACILITY COLLECTOR RESUMING PLEX COLLECTION****Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). This message indicates that the problem, which caused message KCNCI006W to appear, has been resolved. This OMEGAMON® Subsystem has begun collecting Coupling Facility data and is sending data to other OMEGAMON® Subsystems in its XCF group.

**System action**

None.

**KCNCI009E: ERROR JOINING XCF GROUP TYPE=XXXXXXXXXXXXXXXXXX.  
FUNCTION TERMINATING.**

**Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). The Coupling Facility collection function tried to join the XCF group to determine the identity of other group members. A problem occurred while trying to perform this task. The specific condition is given by the text following the **TYPE=** phrase, where XXXXXXXXXXXXXXXXXXXX is:

- QUERY GROUP RC>4: the IXCQUERY for group information ended with a return code greater than 4
- QUERY GROUP NOT4: the IXCQUERY for group information ended with a return code 4 but the reason code was not also 4. When both return and reason codes are 4, it is just a matter of resizing the answer area. Otherwise, some serious error has occurred.
- QUERY GROUP LNG< – :the IXCQUERY for group information ended with indication that we should resize. However, the buffer area we used is already big enough for the complete data. This contradiction cannot be resolved.
- QUERY GROUP REPT: Attempts to resize and get group information have failed repeatedly.
- XCF JOIN FAILED: The IXCJOIN to join the XCF group failed. Check the group name for valid characters.

**System action**

None.

**User response**

Recycle the OMEGAMON® Subsystem associated with this message. If this message appears again, call IBM® Software Support for further assistance.

**KCNCI010I: COUPLING FACILITY COLLECTION PARMS IN EFFECT ARE: XCF  
GROUP NAME=XXXXXXXX ADDRESS=XXXXXXXX REFRESH INTERV=XXXXXXXX  
ADDRESS=XXXXXXXX WTO MESSAGES=XXXXX ADDRESS=XXXXXXXX PLEX  
COLLECT=XXX ADDRESS=XXXXXXXX**

**Explanation**

This message comes from the main module supporting Coupling Facility data collection in the OMEGAMON® Subsystem (KCNCFIN). This message documents the collection parameters in effect for this address space, as follows:

- XCF Group Name – specifies the XCF group name we are using to pass Coupling Facility data from the collecting OMEGAMON® Subsystem to the receiving OMEGAMON® Subsystems. The name must be common to all participating OMEGAMON® Subsystems in the Sysplex. The name should be unique from any other XCF group names used in this Sysplex.
- REFRESH INTERV – shows the refresh interval in effect. The value is in seconds. This interval tells you how frequently we are refreshing Coupling Facility data in this address space. All OMEGAMON® Subsystems that are part of the same XCF group should have the same refresh interval.
- WTO MESSAGES – indicates the level of message logging used. There are 3 levels:
  - NO – no messages at all
  - ERROR – error, warning and informational messages that give key status indications for the service. ERROR is the default.
  - ALL – full debugging level messages. This should be used only with IBM® Software Support involvement. The message volume can be extensive.
- PLEX COLLECT – specifies whether or not this address space may become the collector for this Sysplex. There are 2 values:

- YES indicates that this OMEGAMON® Subsystem may become the Coupling Facility data collector for this Sysplex. Only one OMEGAMON® Subsystem at a time is the collector. OMEGAMON® Subsystems with this value may take over data collection should the current collector fail or be terminated. YES is the default.
- NO indicates that this OMEGAMON® Subsystem may not become the collector for this Sysplex. This OMEGAMON® Subsystem may initiate local collection if the Sysplex collector cannot be located.
- ADDRESS – Appended to each parameter, it is the storage location of this parameter within this address space. This value may be helpful for problem resolution efforts.

#### **System action**

None.

#### **User response**

This information documents the settings in use. It may be helpful to compare these to the other OMEGAMON® Subsystems expected to be in the same XCF group for consistency.

### **KCNDR001E: UNABLE TO OBTAIN PRIVATE STORAGE, COUPLING FACILITY COLLECTION NOT AVAILABLE**

#### **Explanation**

This message comes from the client application using the OMEGAMON® Subsystem for Coupling Facility data collection (KCNCFDR). The driver routine that connects to the OMEGAMON® Subsystem cannot obtain working storage. The client will not be able to report on Coupling Facility information.

#### **System action**

None.

#### **User response**

Recycle the client application associated with this message. If the problem persists, call IBM® Software Support for further assistance.

### **KCNDR002W: KXCQUERY HAS RESUMED USING THE OMEGAMON® SUBSYSTEM**

#### **Explanation**

This message comes from the client application using the OMEGAMON® Subsystem for Coupling Facility data collection (KCNCFDR). This application had lost contact with that subsystem but has now regained contact. Processing is continuing normally.

#### **System action**

None.

#### **User response**

None. If this message appears frequently, call IBM® Software Support for further assistance.

### **KCNDR003W: KXCQUERY HAS LOST USE OF THE OMEGAMON® SUBSYSTEM, RESORTING TO LOCAL COLLECTION**

#### **Explanation**

This message comes from the client application using the OMEGAMON® Subsystem for Coupling Facility data collection (KCNCFDR). This application has lost contact with the OMEGAMON® Subsystem. It has begun collection the data itself.

**System action**

None.

**User response**

Recycle the OMEGAMON® Subsystem associated with this application. If message KCNDR002W is not received after several minutes have elapsed, call IBM® Software Support for further assistance.

**KCNDR004W: OMEGAMON SUBSYSTEM REPORTED A COUPLING FACILITY COMMUNICATION ISSUE, SWITCHING TO A LOCAL COLLECTION****Explanation**

This message comes from the client application using the OMEGAMON Subsystem for Coupling Facility data collection (KCNCFDR). This application has communicated with the subsystem, and the subsystem has reported a coupling facility communication failure. The application has begun collecting the data itself.

**System action**

The application has switched to the local mode of data collection, and it will no longer try to communicate with the subsystem. The local collection mode will be used until the application is recycled.

**User response**

No action is required.

**KCNPR001W: COUPLING FACILITY PARMS MAY NOT BE HONORED. RKANPAR FILE BLOCKSIZE IS LESS THAN THE EXPECTED 8880 SIZE. DEFAULTS MAY BE USED.****Explanation**

This message comes from initialization functions in the OMEGAMON® Subsystem (KCNPRSR). Parameters placed by the Configuration tool in the &hilev.RKANPAR data set help control Coupling Facility collection in the OMEGAMON® Subsystem. The parsing code that reads these parameters is expecting the file block size to be the default size of 8880 bytes. This message indicates that the actual file blocksize is smaller than expected and that control parameters may not be properly found as a result. Default values will be used for parameters that are not located.

**System action**

None.

**User response**

Default values for parameters should be reasonable for most users. If the default parameters do not suit local needs, call IBM® Software Support for further assistance. Resizing the RKANPAR file to its standard 8880 size should relieve this problem.

**KCNPR002I: PARMS NOT FOUND. DEFAULTS USED FOR:****Explanation**

This message comes from initialization functions in the OMEGAMON® Subsystem (KCNPRSR). There are parameters placed by the Configuration Software in the &hilev.RKANPARU data set to help control Coupling Facility collection in the OMEGAMON® Subsystem. The parsing code that reads these parameters is expecting values for four keywords:

- XCF=
- REFRESH=
- PLEXCOLLECT=
- KCN\_WTO=

This message documents those values that are not found. Built in defaults will be used for their value.

**System action**

None.

**User response**

None required. If an overriding parameter was specified but not detected, verify that it was spelled correctly, that there are no blanks after the “=” sign, and that the entire KCNSTR00 member is less than 8880 bytes long.

## **KDH messages**

Messages that begin with the KDH prefix are associated with the TMS:Engine.

### **KDHOP001: UNRECOGNIZED SUBCOMMAND: *subcommand***

**Explanation**

The subcommand entered is not recognized.

**System action**

The subcommand is ignored.

**User response**

Check the spelling of the subcommand. Correct and re-enter the subcommand if necessary.

**Message Type**

Error

### **KDHOP002: SERVER NAME OMITTED, REQUIRED**

**Explanation**

The name of the server must be specified on the subcommand, but it was omitted.

**System action**

The subcommand is ignored.

**User response**

Re-enter the subcommand, specifying the server name

**Message Type**

Error

### **KDHOP003: SERVER NOT AVAILABLE: KDH**

**Explanation**

The specified server cannot be contacted.

**System action**

The subcommand is ignored.

**User response**

If the specified server name is correct, try the subcommand later when the server is running.

**Message Type**

Error

**KDHOP004: SERVER STARTED: KDH****Explanation**

The specified server has been started.

**System action**

Processing continues.

**User response**

None

**Message Type**

Info

**KLB messages**

Messages that begin with the KLB prefix are associated with the TMS:Engine.

**KLBIN000: INVALID KLB COMPONENT HEADER: REGID(*hdrlen*)****Explanation**

An error has been detected in the input data to KLB component initialization.

**System action**

Initialization of the KLB component stops.

**User response**

Contact IBM® Software Support.

**Message Type**

Alert

**KLE messages**

The messages that begin with the KLE prefix are associated with the TMS:Engine C language interface.

**KLECF001: LONGJMP ENCOUNTERED UNCROSSABLE BOUNDARY****Explanation**

During LONGJMP processing a condition forbidding the LONGJMP function was detected.

**System action**

The thread is abended.

**User response**

Contact IBM® Software Support with the dump associated with this message.

**Severity**

ABEND

**KLECF002: LONGJMP UNABLE TO LOCATE ENVIRONMENT****Explanation**

During LONGJMP processing it was determined that the LONGJMP environment was no longer intact.

**System action**

The thread is abended.

**User response**

Contact IBM® Software Support with the dump associated with this message.

**Severity**

ABEND

**KLECF003: JMPBDSA IS NULL****Explanation**

During LONGJMP processing it was determined that the LONGJMP buffer chain has been exhausted.

**System action**

The thread is abended.

**User response**

Contact IBM® Software Support with the dump associated with this message.

**Severity**

ABEND

**KLECF011: UNABLE TO ALLOCATE ACB: APPLID(*applid*)****Explanation**

An error occurred while attempting to allocate an ACB for *applid*.

**System action**

The ACB is not allocated.

**User response**

Contact IBM® Software Support.

**Severity**

ERROR

**KLECF012: UNABLE TO OPEN ACB: APPLID(*applid*) REASON(*reason*)****Explanation**

An error occurred while attempting to open an ACB for *applid*. *reason* is the reason code returned from open.

**System action**

The ACB is not opened.

**User response**

The REASON field contains the return code from the OPEN macro instruction. Refer to *IBM® z/OS® Communication Server: SNA Programming* to determine the cause of the error.

**Severity**

ERROR

**KLECF013: APPLICATION *appl* STARTED****Explanation**

Application *appl* was successfully started.

**System action**

None.

**User response**

None.

**Severity**

REPLY, INFO

**KLECF014: APPLICATION *appl* STOPPED****Explanation**

Application *appl* was successfully stopped.

**System action**

None.

**User response**

None.

**Severity**

REPLY, INFO

**KLECF015: DIALOG FUNCTION *function* HAS BEEN DYNAMICALLY REPLACED****Explanation**

A dialog *function* module has been replaced by a new module.

**System action**

None.

**User response**

None.

**Severity**

INFO

## **KLECF016: DIALOG FUNCTION *function* HAS BEEN DYNAMICALLY ADDED**

### **Explanation**

A new dialog *function* has been registered.

### **System action**

None.

### **User response**

None.

### **Severity**

INFO

## **KLECF996: ABORT REQUESTED FROM *module+X'displacement'*.**

### **Explanation**

The abort function was issued by *module* at location *displacement*.

### **System action**

The current thread is terminated.

### **User response**

Contact IBM® Software Support with the contents of this message.

### **Severity**

WARN

## **KLECF997: ASSERTION FAILED: *expr***

### **Explanation**

The expression *expr* in an assert statement evaluated to zero. Message KLECF998 is also produced giving the location of the assert statement.

### **System action**

The current thread is terminated.

### **User response**

Contact IBM® Software Support.

### **Severity**

WARN

## **KLECF998: INTERRUPTED WHILE: EXECUTING LINE *line* OF source *file* (*loc*)**

### **Explanation**

The expression in an assert statement at line *line* in source file *source file* evaluated to zero. *loc* is the module and displacement of the assert statement. Message KLECF997 is also produced listing the expression that evaluated to zero.

**System action**

The current thread is terminated.

**User response**

Contact IBM® Software Support.

**Severity**

WARN

**KLECF999: ABORT REQUESTED****Explanation**

The abort function was requested by a program.

**System action**

The current thread is terminated.

**User response**

Contact IBM® Software Support.

**Severity**

ABEND

**KLEIN001: INVALID C LANGUAGE INTERFACE HEADER - *module*****Explanation**

During C language interface initialization processing, the specified *module* was inspected and found to have an invalid registration ID.

**System action**

The module is not made available to the C language environment.

**User response**

Contact IBM® Software Support with the module name shown in this message.

**Severity**

INFO

**KLEIN002: FUNCTION PACKAGE IS NON-REENTRANT: *module*****Explanation**

During C language interface initialization processing, the specified *module* was inspected and found to be non-reentrant.

**System action**

The module is not made available to the C language environment.

**User response**

Contact IBM® Software Support with the module name shown in this message.

**Severity**

INFO

## **KLEIN003: C LANGUAGE INTERFACE STARTUP PROLOGUE COMPLETE**

### **Explanation**

The C language interface initialization prologue processing has completed successfully.

### **System action**

Processing continues.

### **User response**

No action is required.

### **Severity**

INFO

## **KLEIN004: C LANGUAGE INTERFACE STARTUP EPILOGUE COMPLETE**

### **Explanation**

The C language interface initialization epilogue processing has completed successfully.

### **System action**

Processing continues.

### **User response**

No action is required.

### **Severity**

INFO

## **KLEIN005: KLE\_SVT VECTOR ALREADY IN USE AT OFFSET *offset* KLE\_CVT OFFSET *cvtoff* EXISTING MODULE - *emod*, ATTEMPTING TO STORE - *omod***

### **Explanation**

The C language interface initialization process has determined that two C interface support modules are attempting to use the same program vector location. *cvtoff* is the vector table offset in the KLE\_CVT. *offset* is offset of the module vector. *emod* is the name of the module whose entry address is currently stored in the vector. *omod* is the name of the module requesting the use of the vector.

### **System action**

TMS:Engine initialization is terminated.

### **User response**

Save the RKLVLOG and contact IBM® Software Support with the contents of this message.

### **Severity**

LOG, ERROR

## **KLEIN006: KLE\_CVT VECTOR ALREADY IN USE AT OFFSET *cvtoff* EXISTING MODULE - *emod*, ATTEMPTING TO STORE - *omod***

### **Explanation**

The C language interface initialization process has determined that two C interface support modules are attempting to use the same program vector location. *cvtoff* is the vector offset in the KLE\_CVT. *emod* is the

name of the module whose entry address is currently stored in the vector or SECONDARY VECTOR TABLE if a vector pointer in the KLE\_CVT is non-zero. *omod* is the name of the module requesting the use of the vector.

**System action**

TMS:Engine initialization is terminated.

**User response**

Save the RKLVLOG and contact IBM® Software Support with the contents of this message.

**Severity**

LOG, ERROR

**KLEIN007: INVALID CFRAME VALUE - *nnnn***

**Explanation**

During C language interface initialization processing, the CFRAME value, *nnnn*, was found to be in error.

**System action**

TMS:Engine initialization is terminated.

**User response**

Correct the CFRAME value and restart the job.

**Severity**

LOG, ERROR

**KLEIN008: KLEINPRO RKANPAR PARAMETERS:**

**Explanation**

Module KLEINPRO logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLEIN009.

**System action**

None.

**User response**

None.

**Severity**

LOG

**KLEIN009: parameters**

**Explanation**

As the parameters in module KLEINPRO are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Severity**

LOG

**KLEIN010: PACKAGE CONTAINS X'10' NON-REENTRANT CONSTRUCTORS:***xxxxxxxx***Explanation**

Informational message issued during TMS:Engine startup while C Language modules are being loaded, where *xxxxxxxx* is the package name.

**System action**

None.

**User response**

None.

**Severity**

INFO

**KLEIN011: ACTION BAR C FUNCTIONS NOT INITIALIZED****Explanation**

The C language action bar initialization routine determined that either the C interface CVT does not exist or the action bar function package could not be found.

**System action**

TMS:Engine initialization is terminated.

**User response**

Save the RKLVLLOG and contact IBM® Software Support with the contents of this message.

**Severity**

INFO

**KLELS000: cccccccc +X'00000000' MADE AN UNSUPPORTED LIBRARY CALL TO nnnnnnnn()****Explanation**

The routine named *cccccccc* at offset *00000000* called a library routine *nnnnnnnn* which is not supported.

**System action**

The routine is terminated abnormally.

**User response**

Contact IBM® Software Support.

**Severity**

Warning

## **KLELS001: UNSUPPORTED KLE LIBRARY CALL**

### **Explanation**

A C language function program made a call to an unsupported module. Message KLELS002 is also issued.

### **System action**

The thread is abended.

### **User response**

Contact IBM® Software Support with the module names shown in message KLELS002.

### **Severity**

ABEND

## **KLELS002: *caller* MADE AN UNSUPPORTED LIBRARY CALL: *nnnn***

### **Explanation**

A C language function program made a call to an unsupported module.

### **System action**

The thread is abended.

### **User response**

Contact IBM® Software Support with the module names shown in this message.

### **Severity**

WARNING

## **KLU messages**

The messages that begin with the KLU prefix are associated with the Tivoli Enterprise™ Monitoring Server on z/OS® or Tivoli® Management Services:Engine (TMS:Engine).

## **KLUAP002: APDSM/ALLOCEAB \$PSM-ALLOCX ERROR**

### **Explanation**

An internal error was detected by TMS:Engine.

### **System action**

TMS:Engine forces an abend with the completion code U0100. The abend is associated with a single TMS:Engine user, whose terminal will hang. System operation for other users will continue normally. A VCANCEL command may be necessary to reinstate the hung user. TMS:Engine automatically writes a formatted dump to the RKLVSnap data set.

### **User response**

Contact IBM® Software Support.

### **Severity**

ABEND

**KLUP003: APDSM DATA STREAM REPROCESSED FOR *session\_id*  
USERID=*userid***

**Explanation**

This error occurred during processing of the application data stream for the specified *session\_id* and *userid*.

**System action**

None.

**User response**

None.

**Severity**

INFO

**KLUDF001: FIELD DATA: *dddddddddddddddddd***

**Explanation**

A VSSDEBUG statement was encountered in a dialog. This message displays the data from a 3270 field.

**System action**

Processing continues.

**User response**

None

**Severity**

INFO

**KLUDF002: FIELD ATTRIBUTE: *xx***

**Explanation**

A VSSDEBUG statement was encountered in a dialog. This message displays the attribute byte from a 3270 field.

**System action**

Processing continues.

**User response**

None

**Severity**

INFO

**KLUDF011: INVALID TRIGGER DEFINITION BLOCK**

**Explanation**

The VSSTRIG function contained an invalid trigger definition block. This is a serious error.

**System action**

The address space terminates.

**User response**

Contact IBM® Software Support.

**Severity**

ABEND

**KLUDF020: rrrrrrrr, VSSINFO 'xxxxxxxxxxxxxxxxxxxx'****Explanation**

A VSSINFO statement was encountered in a dialog but it contains a syntax error indicated by *rrrrrrrr*. The operands on the VSSINFO statement are *xxxxxxxxxxxxxxxxxxxx*.

**System action**

The current dialog is terminated.

**User response**

Edit the dialog and correct the VSSINFO statement.

**Severity**

ABEND

**KLUDF021: option IS NOT A VSSINFO OPTION****Explanation**

The specified option is not valid for the VSSINFO function. FOREGID is currently the only valid option.

**System action**

The current dialog fails.

**User response**

Specify a valid option and retry.

**Severity**

REPLY

**KLUDF022: VSENTRY NOT ISSUED PRIOR TO VSSINFO****Explanation**

A dialog invoked the VSSINFO function before VSENTRY. VSENTRY must be invoked prior to any other VSS function.

**System action**

The current dialog fails.

**User response**

Correct the dialog and retry.

**Severity**

REPLY

## **KLUDF023: FUNCTION VSSDEF INVOKED FROM DIALOG *dialog* IS NO LONGER SUPPORTED**

### **Explanation**

A dialog invoked the VSSDEF function, which is no longer supported.

### **System action**

*dialog* completes with unpredictable results, generating RC=0.

### **User response**

Use VSSALOC instead of VSSDEF and retry.

### **Severity**

LOG

## **KLUGF001: FOREGROUND SET FAILED FOR *userid***

### **Explanation**

Dialog command VSSFOREG failed.

### **System action**

Return code 20 is set for the command.

### **User response**

Retry the command.

### **Severity**

REPLY

## **KLUFT000: VSSFTMGR: DIALOG LOOP DETECTED FOR USER *userid***

### **Explanation**

An error in the controlling dialog causes the dialog to return immediately without moving a session to the foreground.

### **System action**

The user window disappears.

### **User response**

Review the message and correct the controlling dialog. If unable to locate the error, call IBM® Software Support.

### **Severity**

LOG, VIEW

## **KLUFT001: RESOURCE ERROR**

### **Explanation**

An unexpected error has occurred in connection with processing a trigger dialog.

### **System action**

The process is abnormally terminated.

**User response**

Contact IBM® Software Support.

**Severity**

ERROR

**KLUFT002: LOOP AVERTED****Explanation**

An internal error was detected by TMS:Engine.

**System action**

TMS:Engine forces an abend with completion code U0100. The abend is associated with a single TMS:Engine user, whose terminal will hang. System operation for other users will continue normally. TMS:Engine will automatically create a dump.

**User response**

A VCANCEL command may be necessary to reinstate the hung user. Contact IBM® Software Support for help in resolving the error condition or in gathering the problem documentation that IBM® Software Support requires to research the error condition.

**Severity**

ABEND

**KLUFU001: #VSSFUCB ERROR: SESSION STILL ACTIVE****Explanation**

An attempt was made to free a user control block while a session was still active.

**System action**

TMS:Engine takes a diagnostic abend with completion code U0100. The abend is associated with a single TMS:Engine user, whose terminal may hang. A VCANCEL command may be necessary to reinstate the hung user.

**User response**

Contact IBM® Software Support.

**Severity**

ABEND

**KLUFU101: WINDOW INTEGRITY ERROR****Explanation**

An internal error was detected.

**System action**

The user's sessions are terminated.

**User response**

Contact IBM® Software Support.

**Severity**

ABEND

## **KLUIB001: BUFFER SYNCHRONIZATION ERROR**

### **Explanation**

While processing an inbound request, a synchronization error was detected for a virtual terminal buffer. This is a serious error.

### **System action**

The address space terminates.

### **User response**

Contact IBM® Software Support.

### **Severity**

LOG

## **KLUIIN001: VIRTUAL SESSION SUPPORT INITIALIZATION COMPLETE**

### **Explanation**

The successful initialization of virtual session support is logged to create an audit trail.

### **System action**

None.

### **User response**

None.

### **Severity**

INFO

## **KLUIIN002: UNABLE TO LOAD VIRTUAL SESSION SUPPORT COMPONENT *module***

### **Explanation**

Virtual session support is unable to load the required component module. This error is usually caused by the absence of module from the TMS:Engine load library.

### **System action**

Initialization terminates.

### **User response**

Look for additional information in messages in the KLVCMnnn format. Correct the error and restart virtual session support.

### **Severity**

ALERT

## **KLUIIN003: KLUIINVSS RKANPAR PARAMETERS:**

### **Explanation**

Module KLUIINVSS logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLUIIN004.

**System action**

None.

**User response**

None.

**Severity**

LOG

**KLUIN004: *parameters*****Explanation**

As the parameters in module KLUINVSS are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Severity**

LOG

**KLUOP001: VSHOW ARGUMENT LIST: argument list****Explanation**

Displays the arguments that were specified for this VSHOW command.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP002: *session (appl, luname, cid, pool, logmode) {TAKEDOWN | SETUP | ACTIVE[-F]} COMPRESSION {nnn% | OFF}*****Explanation**

This reply from the VSHOW command appears if ACTIVE is specified. It follows KLUOP009 and displays information about a virtual session for the user. *session* is the virtual session ID; *applid* is the application name; *luname* is the logical unit name; *cid* is the VTAM® network resource ID; *pool* is the virtual terminal pool name; and *logmode* is the VTAM® logmode.

TAKEDOWN means the session is currently being terminated; SETUP means the session is currently initializing; ACTIVE means the session is active. (-F) is displayed if the session is in the foreground at the user's terminal.

If compression is active, *nnn* displays the percentage of data stream compression; if not active, OFF is shown. The percentage is calculated by:

```
Compression-Percent =
```

PLU-to-SLU-bytes - Term-Update-Bytes  
-----  
PLU-to-SLU-bytes

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP003: PLU ---> SLU: MSGS(*messages*) BYTES(*bytes*)**

**Explanation**

This reply from the VSHOW command appears if STATS is specified. It lists the accumulated number of messages and bytes sent from the primary logical device to the secondary logical device.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP004: SLU ---> PLU: MSGS(*messages*) BYTES(*bytes*)**

**Explanation**

This reply from the VSHOW command follows KLUOP003 and lists the accumulated number of messages and bytes sent from the secondary logical unit to the primary logical unit.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP005: TERM REFRESH: MSGS(*messages*) BYTES(*bytes*)**

**Explanation**

This reply from the VSHOW command follows KLUOP004 and lists the accumulated number of messages and bytes sent to refresh the display on the terminal. A refresh occurs when the user switches between virtual sessions or an asynchronous pop-up is displayed.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP006: TERM UPDATE: MSGS(*messages*) BYTES(*bytes*)****Explanation**

This reply from the VSHOW command follows KLUOP005 and lists the accumulated amount of real traffic to the physical terminal in messages and bytes.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP007: SESSION session INACTIVE****Explanation**

This reply from the VSHOW command appears if INACTIVE is specified. The specified session is currently inactive.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP008: *selected* OF *total* USER(S), *selected* OF *total* SESSION(S)  
SELECTED****Explanation**

This summary message lists the number of users and sessions selected by the VSHOW command options out of the total pool.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP009: *userid*{DISCONNECTED | *userid* (*applid*,*luname*,*cid*)  
ACTIVE [CONNECTED]}**

**Explanation**

This reply from the VSHOW command displays information about a single user. *userid* is the user's ID. CONNECTED and DISCONNECTED indicate whether the user is attached to a terminal. ACTIVE means the user is currently active. *applid* is the application the user has logged onto; *luname* is the logical unit name; *cid* is the VTAM® network resource ID.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP010: TERM INPUT: MSGS(*messages*) BYTES(*bytes*)**

**Explanation**

This reply from the VSHOW command follows KLUOP006 and lists the accumulated number of input messages and bytes received from the physical terminal while it was logically connected to the virtual session.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP011: VCANCEL ARGUMENT LIST: *argument list***

**Explanation**

Displays the arguments that were specified for this VCANCEL command.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP012: VCANCEL - EITHER USER OR ID REQUIRED**

**Explanation**

Either a user ID or a terminal ID must be entered with the VCANCEL command.

**System action**

The VCANCEL request is ignored.

**User response**

Reissue the command with a user ID or terminal ID.

**Severity**

REPLY, ERROR

**KLUOP013: VFORCE - REQUIRES USER=USERID****Explanation**

You must specify a user ID to be forced.

**System action**

The VFORCE command is ignored.

**User response**

Reissue VFORCE with the USER= keyword.

**Severity**

REPLY

**KLUOP014: VFORCE FOR USER *userid* INVALID. FOR CONFERENCE USE CCANCEL****Explanation**

The user you were trying to force is using CL/CONFERENCE®. The VFORCE command will not work until you have used the CL/CONFERENCE® command CCANCEL.

**System action**

The VFORCE command is ignored.

**User response**

Issue CCANCEL to cancel sessions for the CL/CONFERENCE® user, then reissue VFORCE.

**Severity**

REPLY

**KLUOP015: USER *userid* FORCED****Explanation**

The VFORCE command was successful.

**System action**

None.

**User response**

None.

**Severity**

REPLY

## **KLUOP016: USER *userid* NOT FORCED: *reason***

### **Explanation**

The VFORCE command failed for one of the following reasons (which is specified when the message appears):

- **NOT FOUND:** The user ID was not found.
- **VCANCEL TERM NOT ISSUED:** You must issue VCANCEL with the TERM operand before VFORCE.
- **VIRTUAL SESSION(S) FOUND :** VFORCE found one or more virtual sessions and terminated them. Reissue VFORCE.

### **System action**

As noted above.

### **User response**

As noted above.

### **Severity**

REPLY

## **KLUOP017: VCANCEL FOR USER - *userid* MAY FAIL. VIRTUAL SESSIONS HUNG.**

### **Explanation**

This user's virtual sessions are hung.

### **System action**

The system may not respond to the command.

### **User response**

If the system does not respond, wait a few minutes then retry VCANCEL. If VCANCEL does not work, try VFORCE.

### **Severity**

REPLY

## **KLUOP018: *cancelled* OF *total* USER(S), *cancelled* OF *total* SESSION(S) CANCELLED**

### **Explanation**

This message lists the number of users and sessions cancelled by the VCANCEL command out of the total pool.

### **System action**

None.

### **User response**

None.

### **Severity**

REPLY

## **KLUOP019: VFORCE ARGUMENT LIST: *argument list***

### **Explanation**

Displays the arguments that were specified for this VFORCE command.

### **System action**

None.

### **User response**

None.

### **Severity**

REPLY

## **KLUOP020: VSSTRACE(ON | OFF) TRACING(NONE | [*applid*],*luname*)**

### **Explanation**

This reply from the VSHOW command follows KLUOP009 and shows the trace status for the user. It is issued only when ACTIVE was specified. VSSTRACE shows the virtual session trace status, ON or OFF. TRACING shows the GTRACE options: NONE means GTRACE is not active for the user; *applid* is the application id, if ACB tracing is active, and *luname* is the logical unit name if terminal tracing is active.

### **System action**

None.

### **User response**

None.

### **Severity**

REPLY

## **KLUOP021: WINDOW(*winid*) TRACING(NONE | (*applid*),*luname*)**

### **Explanation**

This reply from the VSHOW command follows KLUOP002. It shows the window ID *winid* for the virtual session or a minus sign (-) if the session is not in a window. TRACING shows the GTRACE options for this virtual session: NONE means GTRACE is not active; *applid* is the application ID, if ACB tracing is active, and *luname* is the logical unit name if terminal tracing is active.

### **System action**

None.

### **User response**

None.

### **Severity**

REPLY

## **KLUOP022: VIRTUAL SESSION SERVICES NOT INITIALIZED, VSHOW IGNORED**

### **Explanation**

The VSHOW command was issued before Virtual Session Services have fully initialized.

**System action**

The VSHOW request is ignored.

**User response**

Wait until message KLUIN001 is written to RKLVLOG, showing Virtual Session Services initialization is complete, then retry the command.

**Severity**

WARN

**KLUOP023: STATS INVALID WITH SUMMARY, STATS IGNORED.****Explanation**

The VSHOW command was entered with the SUMMARY and STATS keywords. These are mutually exclusive.

**System action**

The STATS keyword is ignored.

**User response**

If you wish statistics, reissue the VSHOW command without the SUMMARY keyword.

**Severity**

REPLY

**KLUOP030: VIRTUAL SESSION SERVICES NOT INITIALIZED, VCANCEL IGNORED.****Explanation**

The VCANCEL command was issued before Virtual Session Services have fully initialized.

**System action**

The VCANCEL request is ignored.

**User response**

Wait until message KLUIN001 is written to RKLVLOG, showing Virtual Session Services initialization is complete, then retry the command.

**Severity**

WARN

**KLUOP200: TRACE CLASS(USER) STATUS: USER(*userid*): {ENABLED | PENDING | DISABLED} \*\*\* END OF TRACE STATUS \*\*\*****Explanation**

These lines are the output for the VSTRACE command when neither ON nor OFF was specified. They show the current status for each user for which tracing was requested. ENABLED means tracing is active; PENDING means the user is not logged on but a trace request will be issued when he does log on; DISABLED means tracing is currently inactive.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP201: TRACE REQUEST REJECTED. REQUIRED ARGUMENT NOT SPECIFIED****Explanation**

A VSSTRACE command was specified without the required user ID.

**System action**

The VSSTRACE command is ignored.

**User response**

Reissue the VSSTRACE command with a user ID.

**Severity**

ERROR

**KLUOP202: TRACE USER (userid) {ENABLED | QUEUED | DISABLED}****Explanation**

The trace request for userid has been performed. ENABLED means tracing is active. QUEUED means tracing will start when userid logs on. DISABLED means tracing is not active.

**System action**

None.

**User response**

None.

**Severity**

REPLY

**KLUOP203: GTF INTERFACE HAS NOT BEEN ENABLED****Explanation**

A VSSTRACE request has been issued for a resource but the GTF interface has not been enabled.

**System action**

The command continues, but GTF output will not be produced.

**User response**

Issue the GTF ON command to enable GTF tracing.

**Severity**

ALERT

**KLUPM001: PENDING OUTBOUND MESSAGE LIMIT EXCEEDED LU *luname*  
USERID *userid*. ALL VIRTUAL SESSIONS CANCELLED.**

**Explanation**

A runaway application generated too many messages.

**System action**

Cancels sessions for this luname/user ID.

**User response**

None. This is an application problem.

**Severity**

ALERT

**KLUVT000: PENDING OUTBOUND MESSAGE LIMIT EXCEEDED LU(*luname*)  
USERID:(*userid*). PHYSICAL SESSION CANCELLED.**

**Explanation**

An excessive number of outbound messages have been logged, causing the physical session to terminate.

**System action**

Physical session is cancelled.

**User response**

Make sure that there are no runaway applications. If there are no runaway applications, check the outbound message limit; it may be set too low.

**Severity**

LOG

**KLUVT001: PENDING OUTBOUND MESSAGE LIMIT EXCEEDED LU(*luname*)  
USERID(*userid*). ALL VIRTUAL SESSIONS CANCELLED.**

**Explanation**

An excessive number of outbound messages have been logged. All virtual sessions are cancelled.

**System action**

None.

**User response**

Make sure that there are no runaway applications. If there are no runaway applications, check the outbound message limit; it may be set too low.

**KLUVT002: PENDING OUTBOUND MESSAGE LIMIT EXCEEDED. LU(*luname*)  
USERID(*uuuuuuuu*) PHYSICAL SESSION CANCELLED**

**Explanation**

The outbound physical message limit has been exceeded on the virtual session.

**System action**

The session is terminated.

**User response**

This message may indicate that a dialog contains an error that causes large volumes of data to be produced.

**KLUXD001: QUERY REPLY DATA IS NOT VALID FOR USERID *user*****Explanation**

A 3270 datastream READ PARTITION QUERY command is sent to the user's physical terminal device (if the logmode used by the physical terminal can be queried). When the device returns the requested replies, some basic validity checks are performed on the query reply data. This message is issued if any of these checks fail.

**System action**

Initialization is completed for the user, but the invalid query reply data is ignored. Any READ PARTITION QUERYs issued by applications on the virtual sessions are responded to with a single NULL query reply.

**User response**

At the time message KLUXD001 is sent to the RKLVLLOG data set, a snap of the query reply data that filed the validity checks is taken. The snap data is in the RKLVSnap data set and is identified as REQUESTED FROM KLUXQANA. Use timestamps in the RKLVLLOG and RKLVSnap data to correlate messages and snaps if multiple instances exist. Save these data sets and contact IBM® Software Support for further assistance.

**Severity**

LOG

**KLV messages**

The messages that begin with the KLV prefix are associated with the Tivoli Enterprise™ Monitoring Server on z/OS® or Tivoli® Management Services: Engine (TMS:Engine).

**KLVDI001: KLVWAIT INVOKED FROM UNSUPPORTED ENVIRONMENT****Explanation**

TMS:Engine dispatcher was invoked from SRB mode.

**System action**

TMS:Engine abends U0200.

**User response**

Contact IBM® Software Support.

**Message Type**

Reply

**KLVDL001: INVALID LOGON STRING, EXCESS IGNORED****Explanation**

The user data passed to the KLVENTRY dialog contains more than five subfields.

**System action**

The excess fields are ignored.

**User response**

Correct the user data definition to contain no more than five fields, separated by nulls. Valid fields are user ID, password, group, account, and procedure.

**Message Type**

None

**KLVDL002: *key* IS NOT ACTIVE****Explanation**

A function key that is not assigned a function was pressed.

**System action**

The *key* is ignored.

**User response**

Refer to the bottom of the display panel for a list of active keys.

**Message Type**

None

**KLVDL003: *dlg: system Desc=descriptor, Charset=charset, CGCSGID=cgcsgid, APL support=support*****Explanation**

This message is generated when logging onto a CUA® application. *dlg* is the dialog that determines whether the terminal will support APL characters when the screen is displayed. *system* is the terminal-id for the current session. The *descriptor* defines one terminal storage and symbol-set characteristics entry. The *charset* is the terminal storage identification: X'00' to '07'. The *cgcsgid* is the coded graphic character set global identifier value. The *support* value of 0 indicates that APL is not supported, while a value of 1 indicates that APL is supported.

**System action**

None.

**User response**

Refer to the values in the message to resolve problems with APL support for a given terminal.

**Message Type**

None

**KLVDL101: *appl / lang / ddname: INVALID APPLID*****Explanation**

An TMS:Engine-based application has invoked the help processor with an invalid parameter list. *appl* is the product code, which is incorrect. *lang* is the language code. *ddname* is the associated help file.

**System action**

The help processor stops.

**User response**

Save the TMS:Engine RKLVL0G and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL102: *appl* / *lang* / *ddname*: INVALID LANGUAGE****Explanation**

An TMS:Engine-based application has invoked the help processor with an invalid parameter list. *appl* is the product code. *lang* is the language code, which is incorrect. *ddname* is the associated help file.

**System action**

The help processor terminates.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL103: *appl* / *lang* / *ddname*: TBCREATE FAILED FOR *table*; RC=*rc*****Explanation**

The TMS:Engine help processor cannot create the table *table* which will contain help information. *rc* is the return code from the TBCREATE SSPL dialog function. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

**System action**

The help processor stops processing either the glossary or index.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL104: *appl* / *lang* / *ddname*: IPC CREATE FAILED FOR *qname*; RC=*rc*****Explanation**

The TMS:Engine help processor cannot create the communications queue *qname* for its internal processing. *rc* is the return code from the IPC CREATE SSPL dialog function. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

**System action**

The help processor terminates.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

LOG, VIEW

## **KLVDL105: *dlg*: DD(*ddname*) - KLVRDIR FAILED; RC=*rc***

### **Explanation**

The TMS:Engine help processor cannot read the directory of the help library allocated to *ddname*. *dlg* is the dialog that has detected the error; *rc* is the return code from the utility program that was reading the directory.

### **System action**

The help processor terminates.

### **User response**

Ensure that the TMS:Engine address space has the DD *ddname* allocated to it and that it points to a partitioned data set containing help text. If a security package such as RACF® is being used, the TMS:Engine address space must have read access to the help libraries.

### **Message Type**

None

## **KLVDL106: *dlg*: DD(*ddname*) - [INDEX | GLOSSARY] MEMBER(*mem*) PROCESSING FAILED; RC=*rc***

### **Explanation**

The TMS:Engine help processor could not process the help member *mem* to extract the index or glossary information. *dlg* is the dialog that has detected the error, *ddname* is the DD name of the associated help library, and *rc* is the return code from the utility program that was processing *mem*.

### **System action**

The help processor terminates.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

None

## **KLVDL107: *appl* / *lang* / *ddname*: IPC DEQUEUE INVALID HANDLE**

### **Explanation**

During shutdown processing, the TMS:Engine help processor could not release its communications queue. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

### **System action**

The help processor terminates.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDL108: *appl* / *lang* / *ddname*: IPC DEQUEUE CONTENTION**

### **Explanation**

During shutdown processing, the TMS:Engine help processor detected contention while accessing its communications queue. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

### **System action**

The help processor terminates.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDL109: *appl* / *lang* / *ddname*: NO [INDEX | GLOSSARY] ENTRIES GENERATED**

### **Explanation**

The TMS:Engine help processor did not find any index or glossary entries during initialization of a TMS:Engine-based application. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

### **System action**

The help index or glossary will not be available.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDL110: *dlg*: [INDEX | GLOSSARY] TABLE(*table*) CANNOT BE OPENED; RC=*rc***

### **Explanation**

While attempting to respond to a help request, the TMS:Engine help processor was unable to open the table *table* that contains help index or glossary information. *dlg* is the dialog that has detected the error; *rc* is the return code from the TBOPEN SSPL dialog function.

### **System action**

The help processor terminates; help or the glossary is not available for the application.

### **User response**

Review the TMS:Engine RKLVLLOG for other KLVDL*nnn* messages that may have been issued, and respond as directed. Otherwise, save the RKLVLLOG and contact IBM® Software Support.

### **Message Type**

None

## **KLVDL111: *appl / lang / ddname/ member*: MEMBER NOT FOUND**

### **Explanation**

While attempting to update a help index or glossary table, the TMS:Engine help processor was unable to locate the partitioned data set member in the *ddname* file. *appl* is the product code. *lang* is the language code.

### **System action**

No further processing is performed for *member*; the help processor continues with any other pending requests.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDL112: *appl / lang / ddname/ member*: NO PRIMARY INDEX FOR *term***

### **Explanation**

While attempting to update a help index table, the TMS:Engine help processor detected an error in partitioned data set member, *member*, in the *ddname* file. *term* is the data associated with the error. *appl* is the product code. *lang* is the language code.

### **System action**

*term* is ignored; the help processor continues with any other pending requests.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDL113: *dlg*: TBCREATE FAILED FOR *table*; RC=*rc***

### **Explanation**

The TMS:Engine date processor cannot create the table *table* which will contain date formatting information. *dlg* is the dialog that has detected the error; *rc* is the return code from the TBCREATE SSPL dialog function.

### **System action**

The date processor terminates.

### **User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

### **Message Type**

None

## **KLVDL114: *dlg*: IPC CREATE FAILED FOR *qname*; RC=*rc***

### **Explanation**

The TMS:Engine date processor cannot create the communications queue *qname* for its internal processing. *dlg* is the dialog that has detected the error; *rc* is the return code from the IPC CREATE SSPL dialog function.

**System action**

The date processor terminates.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

None

**KLVDL115: *dlg*: IPC DEQUEUE INVALID HANDLE; RC=*rc*****Explanation**

During shutdown processing, the TMS:Engine date processor could not release its communications queue. *dlg* is the dialog that has detected the error; *rc* is the return code from the IPC DEQUEUE SSPL dialog function.

**System action**

The date processor terminates.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

None

**KLVDL116: *dlg*: IPC DEQUEUE CONTENTION; RC=*rc*****Explanation**

During shutdown processing, the TMS:Engine date processor detected contention while accessing its communications queue. *dlg* is the dialog that has detected the error; *rc* is the return code from the IPC DEQUEUE SSPL dialog function.

**System action**

The date processor terminates.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

None

**KLVDL117: *appl* / *lang* / *ddname*: PDS SETWRT FAILED; RC=*rc*****Explanation**

While attempting to read a partitioned data set directory, the TMS:Engine help processor received return code *rc* from the PDS SSPL dialog function. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

**System action**

No help or glossary information is available.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL118: *appl* / *lang* / *ddname* / *member*: MISSING INCLUDE NAME****Explanation**

While attempting to update a help index table, the TMS:Engine help processor detected an error in partitioned data set member, *member*, in the *ddname* file. *appl* is the product code. *lang* is the language code.

**System action**

term is ignored; the help processor continues with any other pending requests.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL119: *appl* / *lang* / *ddname* / *member*: [INDEX | GLOSSARY] TBMOD FAILED  
RC=*rc*****Explanation**

While attempting to update a help index or glossary table, the TMS:Engine help processor received an error (*rc*) on a TBMOD request. *member* is the partitioned data set member being processed, which resides in the *ddname* file. *appl* is the product code. *lang* is the language code.

**System action**

Further processing for the help index or glossary is terminated.

**User response**

Save the TMS:Engine RKLVLLOG and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL120: *appl* / *lang* / *ddname*: GLOSSARY/INDEX SHUTDOWN COMPLETE****Explanation**

The TMS:Engine help processor received a **quit** request and has terminated the help glossary and index tables normally. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

**System action**

None.

**User response**

None.

**Message Type**

LOG, VIEW

## **KLVDL121: *appl* / *lang* / *ddname*: GLOSSARY/INDEX STARTUP COMPLETE**

### **Explanation**

The TMS:Engine help processor has completed initialization of the help glossary and index tables. *appl* is the product code. *lang* is the language code. *ddname* is the associated help file.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG, VIEW

## **KLVDL201: TABLE *action* REQUEST FROM USER(*userid*) TERM(*termid*) FOR *table***

### **Explanation**

The KLVTBULD SSPL dialog has been invoked to load or unload *table*. *action* is LOAD or UNLOAD, *userid* is the user, and *termid* is the terminal that invoked KLVTBULD.

### **System action**

The load or unload request continues. Message KLVDL202 may follow this message if table is being loaded with a different name.

### **User response**

None.

### **Message Type**

INFO

## **KLVDL202: NEW TABLE NAME IS *newname***

### **Explanation**

The KLVTBULD SSPL dialog has been invoked to load a table with a name (*newname*) different than the original name.

### **System action**

The load or unload request continues.

### **User response**

None.

### **Message Type**

INFO

## **KLVDL300: *appl* USEREXIT(*dlg*) RETURNED INVALID RESULT(*rc*)**

### **Explanation**

A programming error has been detected in dialog application *appl*.

**System action**

The dialog application is terminated.

**User response**

Save the contents of this message and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDL301: *appl apdlg tkdlg text*****Explanation**

Dialog application *appl* has requested that debugging information be written to RKLVLLOG. Message KLVDL302 may follow this message.

**System action**

None.

**User response**

None.

**Message Type**

LOG, VIEW

**KLVDL302: USEREXIT(*dlg*) KEY(*key*) TEXT(*text*)****Explanation**

This message follows KLVDL301 and contains debugging information.

**System action**

None.

**User response**

None.

**Message Type**

LOG, VIEW

**KLVDL303: *appl* USEREXIT(*dlg*) DID NOT RETURN A SYSKEY VALUE****Explanation**

A programming error has been detected in dialog application *appl*.

**System action**

The dialog application is terminated.

**User response**

Save the contents of this message and contact IBM® Software Support.

**Message Type**

LOG, VIEW

## **KLVDL400: TERMINAL OUTPUT WILL BE FORCED TO {UPPER CASE | MIXED CASE}**

### **Explanation**

The KLVCASE dialog has been invoked to force subsequent logons to SSPL-based products to be displayed in upper or mixed case.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG, VIEW. This message is also written to the z/OS® SYSLOG.

## **KLVDM001: MINIMUM/MAXIMUM OPTIONS MUTUALLY EXCLUSIVE: RKANPENU *dialog* LINE *line***

### **Explanation**

The MINIMUM and MAXIMUM options specified on a )BODY dialog statement are mutually exclusive. The associated *dialog* and line number are shown for reference.

### **System action**

Panel interpretation fails.

### **User response**

If the problem is with a user-defined dialog, correct the error and try to refresh the panel. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

WARNING

## **KLVDM002: STRING VARIABLE TOO LONG**

### **Explanation**

The TMS:Engine variables manager detected an attempt to use a string longer than approximately 30,000 bytes.

### **System action**

The thread is terminated with a U0100 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

Abend

## **KLVD003: VARIABLE NAME EXPECTED: *library(dialog)* LINE(*line*)**

### **Explanation**

The BODY section of dialog *dialog* contains an input field that does not contain a variable name, or a variable name prefix (typically an ampersand, &) that is not followed by a variable name. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD004: ATTRIBUTE CONFLICT FOR ATTR(*attr*) *library(dialog)* LINE(*line*)**

### **Explanation**

The specified attribute, *attr*, in the BODY section of dialog *dialog*, conflicts with either an attribute that was previously defined or the variable name prefix (usually an ampersand, &). *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If the problem is with a user-defined dialog, check your panel definition and correct the error. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD005: VARIABLE NAME TOO LONG '*varname*': *library(dialog)* LINE(*line*)**

### **Explanation**

The BODY section of dialog *dialog* contains a variable name, *varname*, that is longer than 8 characters.

### **System action**

The dialog compilation fails.

### **User response**

If the problem is with a user-created dialog, shorten the variable name to 8 characters or less and issue the REFRESH command to determine if the panel definition is correct. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD005\_d: ILLEGAL VARIABLE NAME: MEMBER (*\$ddmbr*) LINE (*\$ddl**ine*)**

### **Explanation**

An illegal variable name in line *\$ddl**ine* of member *\$ddmbr* was encountered.

### **System action**

The dialog is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KLVD006: OPEN MIX STRING: *library(dialog)* LINE(*line*)**

### **Explanation**

Line *line* of dialog *dialog* contains a DBCS shift-out character without a subsequent shift-in character. All DBCS mix strings must be complete on one line in the BODY section of a dialog. *library* is the DD name that contains the dialog.

### **System action**

The panel compilation fails.

### **User response**

If the problem is with a user-defined dialog, check your panel definition and correct the error. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD007: TABLE VARIABLE CONFLICT WITH VARIABLE '*var*': *library(dialog)* LINE(*line*)**

### **Explanation**

The variable *var* appears as both a table variable and a dialog variable in the BODY section of dialog *dialog*. Only one type of declaration is allowed. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The panel compilation fails.

### **User response**

If the problem is with a user-defined panel, check your panel definition and correct the error. If the problem is with an IBM®-supplied panel, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD008: NEGATIVE LENGTH STRING DETECTED BY KLVD0VTR**

### **Explanation**

An internal error has been detected by the TMS:Engine variables manager.

**System action**

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file or the system's dump data sets.

**User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ABEND

**KLVD009: DIALOG VARIABLE BUFFER INTEGRITY LOST****Explanation**

The TMS:Engine variables manager detected an error in its data structures.

**System action**

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file and the system's dump data sets or both.

**User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ABEND

**KLVD010: \$DMFS FAIL CALLED BY *dialog*+X'offset'****Explanation**

This message is for internal use and appears only when DEBUG(Y) is coded in RKLVIN. It can be ignored unless requested by IBM® Software Support. Message KLVD015 follows and contains additional information.

**System action**

None.

**User response**

None.

**Message Type**

LOG, VIEW

**KLVD011: DIALOG *dialog* FAILED; RC(*rc*) REASON(*reason*)****Explanation**

The specified *dialog* failed during execution.

**System action**

TMS:Engine ends the user's session unless ONERROR was specified in the dialog invoking the failing dialog. KLVD015 follows this message and displays information about the dialog, terminal, and application associated with the failure.

## User response

Contact IBM® Software Support or check the return code (*rc*), correct the error in the failing dialog, refresh the dialog, and retry. Possible *rc* values, their meanings, and responses:

Return code	Meaning
4	Dialog not available; either the dialog is not in TLVPNLS or it could not be compiled. Look for other KLVDMxxx messages to identify the problem and correct it.
8	Device dependent routine start-up failed. Save the MVS™ SYSLOG and TMS:Engine TLVLOG and job log. Then contact IBM® Software Support.
12	SSPL function failed during )INIT processing. Look for other KLVDMxxx messages to identify the problem and correct it. Possibilities include using non-numerics in a numeric calculation and passing an invalid parameter to a dialog function.
16	SSPL function failed during )PROLOG processing. Same as RC(12).
20	Device not supported. This is typically caused by a non-terminal dialog attempting to use )BODY, which is not allowed. If this is the case, either do not run the dialog as a non-terminal or correct the dialog design. Otherwise, save the z/OS® SYSLOG and TMS:Engine RKLVLLOG and job log. Then contact IBM® Software Support.
24	An I/O error occurred while trying to write the )BODY data to the terminal. Refer to the TMS:Engine TLVLOG file for additional messages which should identify the problem.
28	SPL function failed during )EPILOG processing. Same as RC(12).
32	SSPL function failed during )TERM processing. Same as RC(12).
36	A RESHOW command was issued in the )TERM section, which is not allowed. Correct the dialog and retry.
40	A SELECT command was issued in the )TERM section, which is not allowed. Correct the dialog and retry.
44	A TBDISPL failed, either because the dialog does not have a )BODY TABLE section, or because the physical terminal was not large enough to display at least one table row. Do not issue TBDISPL against this dialog, add a )BODY TABLE section, or ensure that the )BODY TOP and )BODY BOTTOM sections are not too large. Retry the dialog.

## Message Type

LOG, VIEW, INFO

## KLVDM012: LOOPCTR LIMIT EXCEEDED

### Explanation

The LOOPCTR limit has been exceeded for a dialog. KLVDM015 follows this message and identifies the failing dialog.

### System action

The dialog terminates.

### User response

If the problem is with a user-defined dialog, correct the error, refresh the dialog, and test it. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

## Message Type

LOG, VIEW

## KLVDM013: INVALID NUMERIC ARGUMENT

### Explanation

A dialog has attempted a numeric operation on a value that was not numeric. KLVDM015 follows this message and identifies the failing dialog.

### System action

The dialog terminates.

### User response

Contact IBM® Software Support.

### Message Type

LOG, VIEW

## KLVDM014: MAIN STORAGE SHORTAGE

### Explanation

A dialog could not be executed because the dialog manager discovered a storage shortage. KLVDM015 follows this message and identifies the failing dialog.

### System action

The dialog and the user's session terminate.

### User response

If the error persists, notify your system administrator, who should review storage usage in TMS:Engine, and increase the MINIMUM value in the RKLVIN file.

### Message Type

LOG, VIEW

## KLVDM015: DIALOG(*dialog*) [MEMBER(*member*) LINE(*line*)] Language(*ccc*) [LU(*luname*) APPL(*applid*)]

### Explanation

A warning or error has occurred while executing a dialog. This message follows the actual warning or error message and identifies the dialog, *dialog*, where the condition was detected.

If the information can be determined, the location of the error is shown. *member* is either the dialog name or the name of a COPY member included in dialog. *line* is the line number in *member* where the error occurred. *ccc* is the language code currently in effect.

If the executing dialog is associated with a physical terminal, *luname* is the logical unit name and *applid* is the VTAM® application OD.

### System action

None.

### User response

None.

### Message Type

LOG, VIEW

## **KLVD019: VARIABLE NAME TOO LONG: 'name'**

### **Explanation**

The TMS:Engine dialog manager detected the use of a variable name (*name*) that is longer than 8 characters, and `OPTIONS LONGVARIABLE(IGNORE)` was not coded in the `KLVDNDM` member of `RKANPAR`. `KLVD019` follows this message and identifies the dialog associated with the error.

### **System action**

If `LONGVARIABLE(FAIL)` was specified, the dialog fails. Otherwise, the variable name is truncated at 8 characters and processing continues.

### **User response**

Correct the variable name and refresh the dialog.

### **Message Type**

LOG, VIEW

## **KLVD020: UNSUPPORTED/INVALID \$DMFS REQUEST RECEIVED**

### **Explanation**

The TMS:Engine dialog manager was passed an invalid request.

### **System action**

The request is terminated with a `U0200` abend, sending a dump to the `RKLVSNDP` file or the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD021: name IS ALREADY DEFINED: library(dialog) LINE(line)**

### **Explanation**

The SSPL variable *name* is defined more than once in the `DECLARE` section of dialog, *dialog.library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If the problem is with a user-defined dialog, correct the error, refresh the dialog, and test it. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## KLVDM022: STATIC VARIABLE "*name*" IS UNDECLARED; SCOPE(*scope*) ASSIGNED

### Explanation

The dialog manager detected a reference to variable, *name*, which was not defined in the DECLARE section of the dialog. The NOTDECLARED(REPORT) option was requested, either in the KLVINDM member of RKANPAR or on the OPTION statement in the dialog. KLVDM015 follows this message and shows the dialog that contains the undeclared variable.

**Note:** It is acceptable for a dialog to have undeclared variables; this message is intended as a debugging tool.

### System action

*name* is treated as if it were declared as scope *scope*, and the dialog continues executing. The DEFAULTSCOPE keyword on the OPTION statement may be used to change the default scope. This message is issued only once for each individual reference to the variable.

### User response

Review the dialog shown in message KLVDM015 to determine the proper variable scope. Then add it to the DECLARE section.

### Message Type

LOG, VIEW

## KLVDM023: DYNAMIC VARIABLE "*name*" IS UNDECLARED; SCOPE(*scope*) ASSIGNED

### Explanation

The dialog manager detected a reference to a dynamically constructed variable, *name*, which was not defined in the DECLARE section of the dialog. (Dynamically constructed variable names take the general form of &(&varname).) The NOTDECLARED(REPORT) option was requested, either in the KLVINDM member of RKANPAR or on the OPTION statement in the dialog. KLVDM015 follows this message and shows the dialog that contains the undeclared variable.

**Note:** It is acceptable for a dialog to have undeclared variables; this message is intended as a debugging tool.

### System action

*name* is treated as if it were declared as scope *scope*, and the dialog continues executing. The DEFAULTSCOPE keyword on the OPTION statement may be used to change the default scope. This message will be issued each time the dynamic variable is referenced.

### User response

Review the dialog shown in message KLVDM015 to determine the proper variable scope. Then add it to the DECLARE section.

### Message Type

LOG, VIEW

## **KLVD024: INVALID VARIABLE NAME X'*hexstring*'**

### **Explanation**

The dialog manager detected an invalid dynamically constructed variable name, *hexstring*. (Dynamically constructed variable names take the general form of &(&varname).) KLVD015 follows this message and shows the dialog associated with the error.

### **System action**

A null is used for the variable's value.

### **User response**

If the problem is with a user-defined dialog, review the dialog shown in KLVD015 and correct the SSPL code that constructs the invalid variable name. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD030: KLVTBMGR LOGIC ERROR**

### **Explanation**

The TMS:Engine tables manager detected an invalid condition while performing a request.

### **System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file of the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log, and then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVD031: KLVTBMGR INVALID TABLE DELETE POINTER**

### **Explanation**

The TMS:Engine tables manager detected an invalid condition while performing a request.

### **System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log, and then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVDM040: STATEMENT OUT OF PLACE: *library(dialog)* LINE(*line*)**

### **Explanation**

The OPTION statement must appear as the first or top level of a dialog that includes other common members from the panel library. *dialog* is the dialog that was being refreshed; *library* is the name of the DD that contains the member; *line* is the line number in the member where the misplaced statement was found.

### **System action**

The panel interpretation fails.

### **User response**

If the problem is with a user-defined dialog, move the )OPTION statement in member to beginning of the dialog, and refresh it. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDM041: *errmsg: 'text': library(dialog)* LINE(*line*)**

### **Explanation**

A statement in dialog *dialog* contains invalid syntax. *library* is the name of the DD that contains the member; *line* is the line number in the member where the error was detected. *errmsg* is an error message beginning with KLVSC; *text* is the text at or near the error.

### **System action**

Compilation of the current source member is terminated. If dialog is a COPY member, processing of the previous source member will continue but the compilation will be failed when all processing is complete.

### **User response**

If the problem is with a user-defined dialog, correct the statement shown, and refresh the dialog. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVDM042: RECURSIVE COPY DETECTED *copymem): library(member)* LINE(*line*)**

### **Explanation**

A COPY statement for source member *copymem* was found in a dialog that is being processed as a result of a prior COPY for the same member. *member* is the source member that contains the second COPY; *library* is the name of the DD that contains the member; *line* is the line number in the member where the second COPY was found.

### **System action**

Compilation of the current source member is terminated. If member is a COPY member, processing of the previous source member will continue but the compilation will be failed when all processing is complete.

### **User response**

If the problem is with a user-defined dialog, remove or correct the invalid control statement and attempt to refresh the panel. If the command completes successfully, the panel is ready for use. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD043: COPY MEMBER NOT FOUND: MEMBER(*copymem*): *library*(*member*)  
LINE(*line*)****Explanation**

The source member named on a COPY statement, *copymem*, could not be found. *member* is the source member that contains the COPY; *library* is the name of the DD that contains the member, and that does not contain the copy member; *line* is the line number in the member where COPY was found.

**System action**

Compilation of the current source member is terminated. If member is a COPY member, processing of the previous source member will continue but the compilation will be failed when all processing is complete.

**User response**

If the problem is with a user-defined dialog, check your panel definition and correct the panel's )COPY control statement, or add the member into the panel library. Then refresh the dialog. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD044: UNSUPPORTED LEVEL: '*n*': *library*(*dialog*) LINE(*line*)****Explanation**

While compiling the SSPL dialog *dialog*, an OPTIONS statement was found at line *line* that specified an invalid LEVEL value, *n*. *library* is the name of the DD that contains the member.

**System action**

The dialog compilation fails.

**User response**

If the problem is with a user-defined dialog, correct or remove the LEVEL keyword. Recompile the dialog. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

VIEW, ERROR

**KLVD045: NOTDECLARED(*text*) IS INVALID: *library*(*dialog*) LINE(*line*)****Explanation**

While compiling the SSPL dialog member, an OPTIONS statement was found at line *line* that specified an invalid NOTDECLARED value, *text*. *library* is the name of the DD that contains the member.

**System action**

The dialog compilation fails.

**User response**

If the problem is with a user-defined dialog, correct or remove the NOTDECLARED keyword. Recompile the dialog. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD046: DEFAULTSCOPE(*text*) IS INVALID *library(dialog)* LINE(*line*)****Explanation**

While compiling the SSPL dialog member, an OPTIONS statement was found at line *line* that specified an invalid DEFAULTSCOPE value, *text*. *library* is the name of the DD that contains the member.

**System action**

The dialog compilation fails.

**User response**

If the problem is with a user-defined dialog, correct or remove the DEFAULTSCOPE keyword. Recompile the dialog. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD048: INVALID PANEL CONTROL STATEMENT: *text: library(dialog)* LINE(*line*)****Explanation**

An invalid panel control statement, *text*, was encountered while compiling the dialog, *dialog.library* is the name of the DD that contains the member; *line* is the line number in the member where the invalid statement was found.

**System action**

The dialog compilation fails.

**User response**

If the problem is with a user-defined dialog, currently supported control statements are )BODY, )EPILOGUE, )PROLOGUE, )COMMENT, and )COPY. Correct the control statement and issue the REFRESH command to determine if the panel is ready for use. If the problem is with an IBM®-supplied dialog, contact IBM® Software Support.

Contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD049: INVALID DBCS DATA: XRC(*xrc*) MEMBER(*panel*) LINE(*lineno*)****Explanation**

An SSPL statement containing invalid DBCS data was encountered while interpreting a panel definition. The message provides the DBVALIDATE return code *xrc*, the panel name *panel* and line number *lineno*. The following are valid *xrc* values:

Table 134: Return codes for invalid DBCS data (message KLVD049)	
Return code	Meaning
8	A DBCS subfield contains an odd number of bytes
12	A DBCS subfield contains an invalid codepoint
16	Missing SO. An SI character was detected before finding an SO.

Return code	Meaning
20	Missing SI. An SO character was detected before finding an SI or end of string was detected.

#### System action

Panel interpretation terminates.

#### User response

Correct the SSPL statement and issue the REFRESH command to determine if the panel is ready for use.

#### Message Type

WARNING

### **KLVD050: *keyword(value)* IS OUT OF RANGE (*min-max*); DEFAULTS TO *def***

#### Explanation

*keyword* in the KLVINDM member of RKANPAR was specified with a value that is too small (*min*) or too large (*max*).

#### System action

The default value, *def*, will be used. TMS:Engine initialization continues.

#### User response

Correct the *keyword* value. If the default value is unacceptable, recycle TMS:Engine.

#### Message Type

WARNING

### **KLVD051: DIALOG MANAGER INITIALIZED: LIMIT(*limit*)**

#### Explanation

A dialog manager initialization that completes successfully logs this message to create an audit trail.

#### System action

None.

#### User response

None.

#### Message Type

INFO

### **KLVD052: DIALOG LIBRARY UNAVAILABLE**

#### Explanation

The RKANPENU dialog library was not present or could not be opened during TMS:Engine dialog manager initialization.

#### System action

Dialog manager initialization fails and TMS:Engine terminates.

**User response**

Ensure the RKANPENU DD is present and points to a dialog library. Then restart the product.

**Message Type**

ALERT

**KLVD053: UNRECOGNIZED INITIALIZATION STATEMENT: *stmttype*****Explanation**

The statement *stmttype* is not a valid initialization statement. The statement is in RKANPAR(KLVINDM).

**System action**

Initialization fails and TMS:Engine terminates.

**User response**

Correct the statement and retry.

**Message Type**

ALERT

**KLVD054: *keyword(value)* IS INVALID; DEFAULTS TO *def*****Explanation**

*keyword* in the KLVINDM member of RKANPAR was specified with a *value* that is not a valid choice.

**System action**

The default value, *def*, will be used. TMS:Engine initialization continues.

**User response**

Correct the keyword value. If the default value is unacceptable, recycle TMS:Engine.

**Message Type**

WARNING

**KLVD056: KLVINDM RKANPAR PARAMETERS:****Explanation**

Module KLVINDM logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVD057.

**System action**

None.

**User response**

None.

**Message Type**

LOG

## **KLVD057: *parameters***

### **Explanation**

As the *parameters* in module KLVINDM are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVD058: SUPPORTED LANGUAGES: *list***

### **Explanation**

The dialog manager has finished searching for language-specific dialog library DD statements. *list* is the list of 3-character language codes that the dialog manager has found.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVD059: COULD NOT OPEN *ddname* PANEL LIBRARY**

### **Explanation**

The dialog manager could not open the *ddname* DD, which is a dialog library.

### **System action**

Dialog manager initialization fails and TMS:Engine terminates.

### **User response**

Review the job and z/OS® logs for IBM® data management messages (IEC) that identify the problem. Correct the error and restart the product.

### **Message Type**

ALERT

## **KLVD061: DBCS STRING TRUNCATED IN DIALOG(*dialogname*) BODY AT ROW(*rownum*) COL(*column*)**

### **Explanation**

The dialog *dialogname* contains a Double-Byte Character Set (DBCS) string which is not properly terminated by a Shift-Out (SO) character.

**System action**

The system assumes a SO character at the indicated row and column number.

**User response**

Add the proper SO character.

**Message Type**

INFO

**KLVD070: COMPILED DIALOG EXCEEDS MAIN STORAGE LIMIT:  
*library(dialog)*****Explanation**

The compiled dialog, *dialog*, exceeds the maximum memory allocation permitted by TMS:Engine. *library* is the DD name that contains the dialog.

**System action**

The panel compilation is terminated.

**User response**

Split dialog into smaller dialogs.

**Message Type**

LOG, VIEW

**KLVD071: DIALOG *dialog* NOT FOUND IN *ddname* LIBRARY****Explanation**

Dialog *dialog* was referenced on a select statement, dialog statement, COPY statement, or the REFRESH command, but it was not in the panel library, *ddname*.

**System action**

If the error occurs during an operator command, the command terminates. If it occurs during dialog execution, the dialog thread will generally be terminated.

**User response**

If this is a user-supplied dialog, determine the location of the invalid reference, correct it, and retry the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD072: CRITICAL DIALOG MAY NOT HAVE PRESENTATION CAPABILITY  
*library(dialog)*****Explanation**

A critical dialog must have a presentation space. *library* is the DD name that contains the *dialog*.

**System action**

The dialog compilation fails.

**User response**

Contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD073: DOWNLEVEL CONSTRUCTS CONVERTED; CHECK RKLVL0G FOR DETAILS: *library(dialog)*****Explanation**

While compiling the SSPL dialog *dialog*, one or more statements were found with downlevel syntax. *library* is the DD name that contains the *dialog*.

**System action**

None.

**User response**

If this is a user-supplied dialog, refer to the TMS:Engine RKLVL0G file for KLVD0120, KLVD0125, or KLVD0126 messages associated with member. These will identify the downlevel syntax. Modify the dialog as appropriate.

If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD074: TRACE REQUEST IGNORED FOR *dialog* - DIALOG TRACE IS OFF****Explanation**

A REFRESH operator command was issued for dialog with the TRACE keyword specified. However, dialog trace is not currently active.

**System action**

The dialog is compiled without trace information.

**User response**

If you want *dialog* to be traceable, activate dialog trace with the DTRACE operator command. Then reissue the REFRESH command. Otherwise, no action is needed.

**Message Type**

LOG, VIEW

**KLVD0101: EXCESSIVE OPERANDS: *statement* PROVIDED (*n*) ALLOWS (*m*): *library(dialog)* LINE(*line*)****Explanation**

*n* operands are provided in the procedure or function statement *statement*, but only *m* operands are allowed. *dialog* is the dialog that contains the error. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD102: INSUFFICIENT OPERANDS: *statement* PROVIDED (*n*) REQUIRES (*m*) *library(dialog)* LINE(*line*)****Explanation**

*n* operands are provided in the procedure or function statement *statement* but only *m* operands are required. *dialog* is the dialog that contains the error. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD103: VOID EXPRESSION: *library(dialog)* LINE(*line*)****Explanation**

An expression was provided without operands, such as (), in dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD104: OPEN EXPRESSION: *library(dialog)* LINE(*line*)****Explanation**

An expression was provided with more opening than closing parentheses, such as ((*expr*), in dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD105: UNBALANCED PARENTHESES: *library(dialog)* LINE(*line*)****Explanation**

An expression was provided with more closing than opening parentheses, such as (*expr*), in dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD106: *label* IS A DUPLICATE LABEL: *library(dialog)* LINE(*line*)****Explanation**

The label *label* is defined more than once within the dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD107: IMPROPER USE OF *statement* CONSTRUCT: *library(dialog)* LINE(*line*)****Explanation**

The dialog management statement *statement* was used improperly. This is usually an END or UNTIL statement without a DO, or an ELSE statement without an IF. *library* is the DD name that contains the *dialog*. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

## **KLVD109: IMPROPER TOKEN USAGE: *library(dialog)* LINE(*line*)**

### **Explanation**

An invalid token was detected within dialog *dialog*. This is often a misspelled dialog function name. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD110: OPEN CONSTRUCT(S) IN PROCEDURE: *library(dialog)* LINE(*line*)**

### **Explanation**

A DO statement without an END statement was found in dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD111: LABEL *label* IS UNRESOLVED: *library(dialog)* LINE(*line*)**

### **Explanation**

A GOTO or CALL statement referenced a label that was not found in the dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD112: PREMATURE END OF MEMBER: *library(dialog)* LINE(*line*)**

### **Explanation**

The end of a dialog was reached before a statement was completed. *library* is the DD name that contains the *dialog*. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If this is a user-supplied dialog, correct the error and test the dialog. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD113: OPEN ENVIRONMENT: '*text*': *library(dialog)* LINE(*line*)**

### **Explanation**

*dialog* contains an opening delimiter, *text*, without a closing delimiter. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If this is a user-supplied dialog, enter the closing delimiter and recompile. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD120: DOWNLEVEL FUNCTION SYNTAX: '*name*' *library(dialog)* LINE(*line*)**

### **Explanation**

Dialog *dialog* contains a dialog function call (*name*) that does not have parentheses around its argument list. This is known as level 0 syntax. *library* is the DD name that contains the dialog. *line* is the location where the condition was detected.

### **System action**

This is an information message. The dialog continues compiling.

### **User response**

If this is a user-supplied dialog, modify the dialog so that the function arguments are enclosed in parentheses immediately following the function. If the function has no arguments, parentheses are still required, for example, VSSREFR(). After making the changes, add )OPTION LEVEL(1) at the beginning of the dialog to indicate that functions are identified by parenthetical parameter lists.

If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

**KLVD121: UNBALANCED COMMENT DELIMITER(S): *library(dialog)*  
LINE(*line*)**

**Explanation**

A comment-end delimiter (*\*/*) was found in dialog *dialog* without a corresponding comment-start delimiter (*/\**). *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the error. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD122: INVALID HEX LITERAL: '\x': *library(dialog)* LINE(*line*)**

**Explanation**

An invalid hexadecimal string, *x* was detected in dialog *dialog*. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, enter the correct value (\xx, where either x = 0 - 9 or A - F) and recompile. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVD123: INVALID STRING FUNCTION: '*func*': *library(dialog)* LINE(*line*)**

**Explanation**

*func* was coded as a string function in dialog *dialog*, but it is either not a valid SSPL statement or dialog function name or is not allowed to be used as a string function. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

**System action**

The dialog compilation fails.

**User response**

If this is a user-supplied dialog, correct the syntax and recompile. If this is an IBM®-supplied dialog, contact IBM® Software Support.

**Message Type**

LOG, VIEW

## **KLVD124: INVALID STRING FORMAT: '*string*': *library*(*dialog*) LINE(*line*)**

### **Explanation**

An invalid string, *string*, was detected in dialog *dialog*. It may be missing a closing quote, or may contain a missing or invalid variable name. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

If this is a user-supplied dialog, correct the *string* and recompile. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD125: DOWNLEVEL REFERENCE: '*text*': *library*(*dialog*) LINE(*line*)**

### **Explanation**

A statement in dialog *dialog* was coded using a syntax that is no longer supported. *library* is the DD name that contains the dialog. *line* is the location where the condition was detected.

### **System action**

*text* is converted internally to the correct syntax and message KLVD126 is issued to display it. The dialog continues compiling.

### **User response**

If this is a user-supplied dialog, refer to KLVD126 for the correct syntax and modify the dialog accordingly. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD126: CONVERTED REFERENCE: '*text*': *library*(*dialog*) LINE(*line*)**

### **Explanation**

This message follows KLVD125 and displays how the unsupported syntax was converted. *text* is the converted text. *dialog* is the dialog that contains the statement. *library* is the DD name that contains the dialog. *line* is the location where the condition was detected.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG, VIEW

## **KLVD127: WARNING - OPEN COMMENT BLOCK: *library(dialog)* LINE(*line*)**

### **Explanation**

During refresh processing for dialog *dialog*, the dialog manager detected an open comment block (more /\* than \*/). *line* is the line where the error was detected, and is typically an SSPL section marker (PROLOG, )BODY, etc.). *library* is the DD name that contains the dialog.

### **System action**

This is a warning message only. The dialog continues compiling, but portions of the dialog may be omitted or syntax errors may be reported.

### **User response**

If this is a user-supplied dialog, review dialog member and correct the open comment block. If this is an IBM®-supplied dialog, contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD128: MAXIMUM ATTRIBUTES EXCEEDED FOR ATTR(*attr*): *library(dialog)* LINE(*line*)**

### **Explanation**

More than 252 panel attributes have been declared in dialog *dialog*. *attr* is the offending attribute. *library* is the DD name that contains the dialog. *line* is the location where the error was detected.

### **System action**

The dialog compilation fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

LOG, VIEW

## **KLVD130: *diagnostic text***

### **Explanation**

This message is for internal use. It can be ignored unless requested by IBM® Software Support.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

**KLVD131: TOKEN-TRACE, *next, length, value, current, stack, frame***

**Explanation**

This message is for internal use. It can be ignored unless requested by IBM® Software Support.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVD132: LABEL-TRACE, *next, length, value, current, stack, frame***

**Explanation**

This message is for internal use. It can be ignored unless requested by IBM® Software Support.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVD133: TRACE ENVIRONMENT READ FAILED, RC=*rc***

**Explanation**

An internal processing error has occurred during dialog grace statement range processing.

**System action**

Any previous range remains active.

**User response**

Save the *rc* value and contact IBM® Software Support.

**Message Type**

REPLY

**KLVD134: STATEMENT RESOURCE INITIALIZATION FAILED**

**Explanation**

An internal processing error has occurred during dialog trace statement range processing.

**System action**

Any previous range remains active.

**User response**

Contact IBM® Software Support.

**Message Type**

REPLY

**KLVDM201: INSUFFICIENT STORAGE FOR RESULT OF ENCDEC FUNCTION****Explanation**

The result of an encryption or decryption function was too large for the storage area to receive it. This is a "should not occur" condition.

**System action**

The dialog is terminated. KLVDM015 follows this message and displays information about the dialog, terminal, and application associated with the failure.

**User response**

Save a copy of the dialog, the contents of RKLVIN, and the TMS:Engine run sheets. Then contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVDM901: INVALID PARMS PASSED TO KLV\$DMNL****Explanation**

An internal processing error has occurred.

**System action**

The current function is abended with code U0100 to force a diagnostic dump.

**User response**

Save the TMS:Engine run sheets and RKLVLLOG, JES SYSLOG, and SVC dump. Then contact IBM® Software Support.

**Message Type**

ABEND

**KLVDM902: LANGUAGE CODE MUST BE 3 CHARACTERS****Explanation**

A language code was entered that is too long or too short. Language codes must be 3 characters.

**System action**

The operator command is terminated.

**User response**

Reissue the command with a valid language code.

**Message Type**

ERROR

## **KLVDM903: LANGUAGE CODE *ccc* IS NOT VALID**

### **Explanation**

The language code, *ccc*, is not supported. Message KLVDM904 follows and lists the valid codes. The operator command is terminated.

### **User response**

Reissue the command with a valid language code.

### **Message Type**

ERROR

## **KLVDM904: VALID CODES ARE *ccc* ...**

### **Explanation**

The language codes recognized by TMS:Engine are displayed.

### **System action**

None.

### **User response**

None.

### **Message Type**

ERROR

## **KLVD001: LUNAME *luname* NOT UNIQUE AND WILL NOT TRACE**

### **Explanation**

A duplicate LUNAME exists on the system and tracing of *luname* will not occur.

### **System action**

*luname* will not be traced.

### **User response**

Rename *luname* so that it is unique to the system.

### **Message Type**

INFO

## **KLVD002: DIALOG TRACE ENVIRONMENT INTEGRITY ERROR**

### **Explanation**

There is a severe problem with the dialog trace facility (DTF) environment.

### **System action**

Dialog tracing is terminated.

### **User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVER001: SNAP ID *snid* REQUESTED FROM *module* + X *offset*****Explanation**

A \$SNAP macro was coded to request a snap of the registers or the registers and a storage area. The snap was called in *module* at offset *offset*.

**System action**

TMS:Engine takes the requested snap and continues.

**User response**

This is an IBM® debugging tool developed for TMS:Engine applications, and it is specific to a particular product.

**Message Type**

INFO

**KLVER011: ABNORMAL TERMINATION AVERTED: ABEND EC MODE PSW *psw* REFERS TO *abndmod* + X *abndoff* ABEND: SYSTEM *abend* USER *usr*****Explanation**

An abend occurred in module *abndmod* at offset *abndoff*.

**System action**

TMS:Engine issues snap dumps of the environment, and processing continues.

**User response**

Contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVER012: DUMPING TO SYSDUMP****Explanation**

The system has been requested to capture a dump on the data set specified by the SYSDUMP DD statement.

**System action**

TMS:Engine requested the system to take a dump of the environment. A summary dump is also taken on RKLVSNAIP.

**User response**

Copy the dump to tape and contact IBM® Software Support.

**Message Type**

LOG, VIEW

**KLVER013: ESTAE: *estae* AT address (module + offset) SNAPPING MAIN  
STORAGE SNAPPING TASK INFORMATION SNAPPING SYSTEM INFORMATION  
SNAP COMPLETE**

**Explanation**

An abend occurred at address in module.

**System action**

TMS:Engine issues snap dumps of the environment, and processing continues.

**User response**

Contact IBM® Software Support.

**Message Type**

ALERT

**KLVEV001: SYSECHO(*text*)**

**Explanation**

The dialog control verb &SYSECHO has been detected while evaluating an expression.

**System action**

The requested *text* is logged.

**User response**

None.

**Message Type**

LOG, VIEW, REPLY

**KLVFL001: ALL PENDING VSAM CHANGES HAVE BEEN WRITTEN TO DASD**

**Explanation**

The TMS:Engine operator command, FLUSH, was issued to request the IBM® VSAM data management services to write all pending VSAM records to the appropriate cluster. The request has completed successfully.

**System action**

None.

**User response**

None. To prevent accidental data loss, users are encouraged to leave the automatic FLUSH in RKANCMD(KLVSTART). To eliminate the automatic FLUSH, delete the statement from RKANCMD(KLVSTART).

**Notes®**

The KLVSTART member in RKANCMD, which contains commands that are performed during TMS:Engine initialization, contains an EVERY 30:00 FLUSH command. This causes FLUSH to be issued every 30 minutes.

**Message Type**

REPLY

## **KLVL002: ALL PENDING RKLVL0G RECORDS HAVE BEEN WRITTEN**

### **Explanation**

The TMS:Engine operator command, FLUSH, was issued to request the IBM® data management services to write all pending RKLVL0G records to the currently active RKLVL0G data set. The request has completed successfully.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVL003: ALL PENDING NAF RECORDS HAVE BEEN WRITTEN**

### **Explanation**

The TMS:Engine operator command, FLUSH, was issued to request the IBM® data management services to write all pending Network Accounting Facility (NAF) records to the NAF data set or to SMF or both. The request has completed successfully.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVM001: FREE STORAGE AREA INTEGRITY LOST**

### **Explanation**

The integrity of the free storage area has been lost. This is caused by a storage overlay.

### **System action**

TMS:Engine will abend U0200 to terminate the address space.

### **User response**

Save the run sheets, dump files, and z/OS® system log, Then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVM002: STORAGE RELEASE ERROR**

### **Explanation**

An invalid storage release request has been detected. This is may be caused by a storage overlay or an invalid address.

**System action**

TMS:Engine will abend U0100 to terminate the requesting thread.

**User response**

Save the run sheets, dump files, and z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ABEND

**KLVM001: STORAGE POOL LIMIT EXCEEDED****Explanation**

A request for storage exceeded the LIMIT parameter that was specified or implied at start-up.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Increase the limit parameter value and restart the product.

**Message Type**

REPLY

**KLVM002: ZERO LENGTH STORAGE REQUEST****Explanation**

A zero length storage request was made to TMS:Engine.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

REPLY

**KLVM003: FREE STORAGE LIST INTEGRITY LOST****Explanation**

The integrity of the free storage list has been corrupted.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

REPLY

## **KLVGM004: FREE STORAGE AREA INTEGRITY LOST**

### **Explanation**

The integrity of the free storage area has been corrupted.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVGM005: FREE STORAGE AREA EXHAUSTED**

### **Explanation**

TMS:Engine has used all available free storage and was unable to satisfy a storage allocation request.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Adjust the TMS:Engine MINIMUM and MAXIMUM parameters in the RKLVIN file and restart TMS:Engine.

### **Message Type**

REPLY

## **KLVGM006: FREE BLOCK INTEGRITY CHECK FAILED**

### **Explanation**

TMS:Engine has detected an invalid storage release request.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVHS001: HANDLE SERVICES MANAGER INITIALIZATION COMPLETE**

### **Explanation**

The handle services initialization module has processed all input parameters and initialized the handle services environment without error.

### **System action**

Processing continues.

**User response**

None.

**Message Type**

INFO

**KLVHS002: *keyword(value)* OUT OF RANGE (*min-max*) USING DEFAULT VALUE (*default*)****Explanation**

The *value* specified in the *keyword* parameter was outside the range (*min-max*) shown. The *default* value default has been substituted.

**System action**

Processing continues.

**User response**

If the default value is unacceptable, modify the *keyword* parameter in your RKANPAR member KLVINHSM and restart TMS:Engine.

**Message Type**

INFO

**KLVHS003: REGISTER THREAD ANCHOR FAILED FOR KLVINHSM****Explanation**

An attempt to register a thread anchor for handle services manager (HSM) failed.

**System action**

HSM initialization is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVHS004: HSM VECTOR TABLE NOT ALLOCATED****Explanation**

The address of the handle services manager vector table is zero.

**System action**

handle services manager initialization is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

## **KLVHS005: KLVINHSM RKANPAR PARAMETERS:**

### **Explanation**

Module KLVINHSM logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVHS006.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVHS006: *parameters***

### **Explanation**

As the *parameters* in module KLVINHSM are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVHS011: MAXPOOLS(*pools*) USING(*rpools*), MAXHANDLES(*handles*) USING(*rhandles*)**

### **Explanation**

The specified MAXPOOLS value *pools* was rounded to *rpools*. The specified MAXHANDLES value *handles* was rounded to *rhandles*. The rounded values will be used by the handle services manager.

### **System action**

Processing continues.

### **User response**

None.

### **Message Type**

INFO

## **KLVHS201: HANDLE NOTIFY ROUTINE ABEND (*tnnnn*) - HANDLE(*handle*) ADDR(*addr*) POOL(*pool*) EXIT(*exit*) PARM(*part*) ASSOC(*assoc*)**

### **Explanation**

During handle name deregistration or handle pool purge processing, a notify routine abended. *t* is the abend type (S)ystem or (U)ser and *nnnn* is the abend code. The abend code is three hexadecimal digits for a system abend and four decimal digits for a user abend. *handle* is the handle name. *addr* is the address of the handle

name block within the handle pool. *pool* is the handle pool address. *exit* is the notify routine address. *parm* is the parameter passed to the exit. *assoc* is the 32-bit associated value for this handle name.

**System action**

A dump is produced and cleanup processing for the handle name is terminated. Processing continues.

**User response**

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

**Message Type**

ERROR

**KLVS202: NO HANDLE POOLS AVAILABLE****Explanation**

A request to initialize a handle pool could not be serviced because no empty table slot was available.

**System action**

A dump is produced and the thread is terminated.

**User response**

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

**Message Type**

ERROR

**KLVS203: HANDLE SERVICES MANAGER VECTOR TABLE IS INVALID****Explanation**

The handle services manager vector table was invalid during the processing of a handle services request.

**System action**

A dump is produced and the thread is terminated.

**User response**

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

**Message Type**

ERROR

**KLVS204: HANDLE SERVICES MANAGER RETURN AREA NOT LARGE ENOUGH****Explanation**

The handle services manager return area (\$HRA) was not large enough to allow required information to be returned during the processing of a handle services request.

**System action**

A dump is produced and the thread is terminated.

**User response**

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

**Message Type**

ERROR

**KLVS205: INVALID RELEASE HANDLE REQUEST****Explanation**

The handle use count was already zero during the processing of a handle services request to release a handle.

**System action**

A dump is produced and the thread is terminated.

**User response**

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

**Message Type**

ERROR

**KLVS811: HANDLE SERVICES MANAGER GLOBAL STATISTICS****Explanation**

This is the title line for the HSM Global Statistics display.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS812: MAXIMUM POOLS = *maxpools*****Explanation**

The maximum number of handle pools that can be allocated.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS813: MAXIMUM HANDLES PER POOL = *maxhandles*****Explanation**

The maximum number of handles available in a single handle pool.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS814: TOTAL POOLS IN USE = *totalpools*****Explanation**

The total number of handle pools that are currently allocated and in use.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS815: TOTAL HANDLES IN USE = *totalhandles*****Explanation**

The total number of handles in use in all pools.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS816: TOTAL STORAGE IN USE = *totalstorage*****Explanation**

The total amount of storage currently in use by handle services. This storage is allocated above the 16 M line.

**System action**

None.

**User response**

None.

**Message Type**

INFO

## **KLVS817: TOTAL EXPANSIONS = *totalexpansions***

### **Explanation**

The total number of times the handle services manager performed a handle pool expansion.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVS818: AVERAGE HANDLES PER POOL = *averagehandles***

### **Explanation**

The average number of handles in a handle pool.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVS820: QUERYHSM - OWNERID= AND POOLID= KEYWORDS ARE MUTUALLY EXCLUSIVE**

### **Explanation**

The QUERYHSM command was issued with both the OWNERID= and POOLID= keywords specified.

### **System action**

Only GLOBAL statistics are displayed.

### **User response**

Re-enter the command with either POOLID= or OWNERID= specified.

### **Message Type**

INFO

## **KLVS821: HANDLE SERVICES MANAGER GLOBAL STATISTICS DETAIL**

### **Explanation**

This is the title line for the HSM Global Statistics Detail display.

### **System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS822: POOL ID = *poolid*, OWNERID = *ownerid*, SIZE = *poolsize* BYTES**

**Explanation**

This message is printed when the QUERYHSM GLOBAL DETAIL command is entered. It is printed once for each active handle pool. *poolid* is the handle pool ID, *ownerid* is the owning logical resource name, and *poolsize* is the handle pool size in bytes.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS829: END OF THE HSM STATISTICS DISPLAY**

**Explanation**

This message indicates that all the requested handle services manager statistics have been displayed.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS830: INVALID OWNERID SPECIFIED ON QUERYHSM COMMAND -  
*ownerid***

**Explanation**

The specified *ownerid* is not a valid logical resource number or was not 8 characters long. The owner ID must include all leading zeros.

**System action**

Only GLOBAL statistics are displayed.

**User response**

Issue QUERYHSM DETAIL command for a list of valid owner IDs and then reissue the QUERYHSM OWNERID= command specifying all 8 characters of the owner ID.

**Message Type**

INFO

## **KLVHS831: HANDLE SERVICES MANAGER LIST OWNERID STATISTICS**

### **Explanation**

This is the title line for the handle pool owner ID statistics display.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVHS832: OWNERID = *cccccccc*, NUMBER OF POOLS OWNED = *nn***

### **Explanation**

This message is printed when the QUERYHSM OWNERID= command is issued. *cccccccc* is the owner ID and *nn* is the number of pools owned.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVHS833: POOLID = *poolid*, SIZE = *nnnnnn* BYTES, HANDLES IN POOL = *hhhhh***

### **Explanation**

In addition to message KLVHS832, this message is printed when the QUERYHSM DETAIL OWNERID= command is issued. It is printed once, immediately following message KLVHS832, for each owned handle pool. *poolid* is the handle pool ID, *nnnnnn* is the size of the handle pool in bytes, and *hhhhh* is the number of handles in the pool.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVHS840: INVALID POOLID SPECIFIED ON QUERYHSM COMMAND - *poolid***

### **Explanation**

The value *poolid* was specified on a QUERYHSM command, but it is not a valid handle pool ID.

**System action**

Only GLOBAL statistics are displayed.

**User response**

Issue QUERYHSM DETAIL command to get a list of valid pool IDs. Then reissue the QUERYHSM POOLID= command with the correct pool ID.

**Message Type**

INFO

**KLVHS841: HANDLE SERVICES MANAGER LIST POOLID STATISTICS****Explanation**

This is the title line for the handle pool statistics display.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS843: HANDLES IN POOL = *handles*, HANDLES IN USE = *inuse*****Explanation**

In addition to message KLVHS822, this message is printed when the QUERYHSM DETAIL POOLID= command is issued. It is printed immediately following message KLVHS822. *handles* is the total number of handles in the handle pool and *inuse* is the number of handles that are currently in use.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS844: PRIMARY SIZE = *prsize* HANDLES, EXPANSION SIZE = *expsize* HANDLES****Explanation**

In addition to messages KLVHS822 and KLVHS843, this message is printed when the QUERYHSM DETAIL POOLID= command is issued. It is printed immediately following message KLVHS843. *prsize* is the initial number of handles in the handle pool and *expsize* is the number of new handles added to the pool each time it expands.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS845: NUMBER OF EXPANSIONS = *nnn*****Explanation**

In addition to messages KLVHS822, KLVHS843, and KLVHS844, this message is printed when the QUERYHSM DETAIL POOLID= command is issued. It is printed immediately following message KLVHS844. *nnn* is the number of times the handle pool has been expanded.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS851: HANDLE SERVICES MANAGER STORAGE ISOLATION STATISTICS****Explanation**

This is the title line for the handle services manager storage isolation statistics display.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVHS852: PRIMARY SIZE = *prsize*, SECONDARY SIZE = *secsize*****Explanation**

The values used to allocate the storage isolation pool used by handle services. *prsize* is the initial storage amount allocated and *secsize* is the additional amount of storage allocated each time the storage pool is expanded.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS853: CURRENT STORAGE IN USE = *nnnnn***

**Explanation**

The amount of storage in the storage pool that is currently in use.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS854: MAXIMUM STORAGE EVER IN USE = *nnnnn***

**Explanation**

The maximum amount of storage in the storage pool that was ever in use.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS855: CURRENT STORAGE ALLOCATED = *nnnnn***

**Explanation**

The total amount of TMS:Engine storage currently allocated to the storage pool.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS999: HSM COMPONENT FAILURE AT *nnnnnnnn*+X'*oooooooo*',  
POOLID(*pppp*), HANDLE(*hhhh*), PARMLIST(*llllllll*), POOLADDR(*aaaaaaaa*),  
HSMVT(*vvvvvvvv*)**

**Explanation**

A failure has occurred in the handle services manager at the indicated location.

**System action**

The HSM request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

LOG, ERROR

**KLVIC001: CONTACT ESTABLISHED WITH *node*****Explanation**

The intercommunications manager successfully established communications with *node*, usually as a result of the NODE command being issued.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVIC002: CONTACT LOST WITH *node*****Explanation**

The intercommunications manager has lost contact with *node*.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVIC003: DEFINITION COMPLETE FOR *node*****Explanation**

The intercommunications manager successfully completed initialization for *node*, usually as a result of the NODE command being issued.

**System action**

None.

**User response**

None.

**Message Type**

INFO

## **KLVIC101: OPERATOR ACTIVE: ID(*opid*) LU(*ocdev*)**

### **Explanation**

Operator *opid* has logged on from device *ocdev*, causing this message to be logged as an audit trail.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVIC102: OPERATOR INACTIVE:ID(*opid*) LU(*ocdev*)**

### **Explanation**

Operator *opid* has logged off, creating this message to be logged as an audit trail.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVIN000: CT/IX INTERFACE INITIALIZED**

### **Explanation**

The POSIX environment has been successfully established.

### **System action**

None.

### **User response**

This message is informational.

## **KLVIN000\_d: UNABLE TO REGISTER CT/iX THREAD or PROCESS ANCHOR: RC(9999)**

### **Explanation**

A fatal an unexpected error has occurred.

### **System action**

The process terminated.

### **User response**

Gather relevant logs and report this problem to IBM® Software Support.

## **KLVIN001: INVALID CT/IX INTERFACE HEADER - <LMOD header>**

### **Explanation**

A fatal an unexpected error has occurred.

### **System action**

The process terminated.

### **User response**

Gather relevant logs and report this problem to IBM® Software Support.

## **KLVIN400: TASK INITIALIZED: \$DQA(*dqa*) TASK(*task*) \$DSA(*dsa*) EVTBL(*evtbl*) DPRTY(*dprty*)**

### **Explanation**

During TMS:Engine start-up, the TMS:Engine dispatcher started the identified task to perform its work. The displayed fields contain information useful for IBM® diagnostic efforts.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVIN403: COMMAND LIBRARY UNAVAILABLE**

### **Explanation**

During TMS:Engine start-up the command library, DD name RKANCMD, could not be accessed. It is probably not present in the TMS:Engine JCL procedure.

### **System action**

Any data contained in the command library is unavailable.

### **User response**

Refer to the z/OS® system log for any IBM® data management messages (IEC). Determine the reason the command library could not be opened, correct it, and restart TMS:Engine.

### **Message Type**

WARNING

## **KLVIN405: STARTUP MODULE: *modname* [,@*entry-point*] SEQUENCE *num* [,USING RKANPAR MEMBER *member*]**

### **Explanation**

During TMS:Engine start-up, module *modname* with sequence number *num* will be invoked. If an initialization parameter member of RKANPAR is found for this module, it is identified as member in the message. The entry-point address will only be included in the message if debug mode is in effect.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVIN406: STARTUP ERROR: MODULE(*modname*) R15(*r15*)****Explanation**

During TMS:Engine start-up, module *modname* detected an error. *r15* should have a nonzero value.

**System action**

TMS:Engine is terminated after any subsequent start-up modules are invoked.

**User response**

Examine the TMS:Engine log data set for additional messages to determine a more specific reason for the error. Correct it, and restart TMS:Engine.

**Message Type**

ALERT

**KLVIN407: FLUSHING INITIAL MESSAGES****Explanation**

After TMS:Engine is successfully started, any pending messages are written to the log so that start-up messages may be viewed by the site to determine if the TMS:Engine environment was correctly established.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVIN408: CANDLE ENGINE VERSION *ver* READY ON *smfid* SYS *cpuid*:  
GSA(*nnnn*)****Explanation**

TMS:Engine version *ver* is up and running on system *smfid*. The variable *nnn* refers to the address of the Global Storage Area, the TMS:Engine primary control block.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVIN409: INITIALIZATION LIBRARY UNAVAILABLE****Explanation**

During TMS:Engine start-up the parameter library, DD name RKANPAR, could not be accessed. It is probably not present in the TMS:Engine JCL procedure.

**System action**

Any data contained in the parameter library is unavailable.

**User response**

Refer to the z/OS® system log for any IBM® data management messages (IEC). Determine the reason the command library could not be opened, correct it, and restart TMS:Engine.

**Message Type**

WARNING

**KLVIN410: INITLIST MEMBER *member* BEING PROCESSED****Explanation**

The INITLIST keyword was coded and *member* is being processed for start-up member name overrides.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVIN411: *override-statement*****Explanation**

The contents of the INITLIST member are echoed in *override-statement*.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVIN412: STARTUP MODULE *module* NOT FOUND****Explanation**

An override statement references a start-up module that is not present in this TMS:Engine address space.

**System action**

The override is ignored and processing continues.

**User response**

Correct the override statement and restart the TMS:Engine address space if necessary.

**Message Type**

WARNING

**KLVIN413: INITLIST MEMBER *member* NOT FOUND****Explanation**

*member* could not be found in RKANPAR.

**System action**

The start-up is terminated.

**User response**

Correct the INITLIST keyword to specify a valid member name and restart the TMS:Engine address space.

**Message Type**

ERROR

**KLVIN414: OVERRIDE MEMBER *member* FOR STARTUP MODULE *module* NOT FOUND****Explanation**

*member* could not be found in RKANPAR for start-up module *module*. This message will only be issued if the override member name differs from the default.

**System action**

The start-up is terminated.

**User response**

Correct the INITLIST member to specify a valid override member name and restart the TMS:Engine address space.

**Message Type**

ERROR

**KLVIP004: { INVALID TIME SPECIFICATION | KEYWORD NOT FOUND | REQUIRED OPERAND OMITTED | OPERAND TOO SHORT OPERAND TOO LONG | INVALID NUMERIC OPERAND | INVALID QUOTED STRING INVALID DELIMITER USAGE | AMBIGUOUS KEYWORD | REFERENCE }, FUNCTION(IPC):  
*dddddddddddddddddddd*****Explanation**

A syntax error was encountered while parsing an Inter-Process Communications (IPC) command buffer. The contents of the command buffer is displayed in the *dddddddddddddddddddd* field of the message.

**System action**

The command is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

VIEW

**KLVIP004\_d: UNSUPPORTED IPC SERVICE****Explanation**

A service other than CREATE, DESTROY, DEQUEUE, PUSH, ACCESS, ALARM, or QUEUE was requested from IPC.

**System action**

The dialog is terminated.

**User response**

If this error occurred in a user-created dialog, correct the error and restart the dialog process. If this error occurs while running any other IBM® Tivoli® product, contact IBM® Software Support.

**Message Type**

VIEW

**KLVLG001: CLUSTER INITIAL LOAD FAILED, SERVICE(*service*), RC(*rc*)****Explanation**

During TMS:Engine initialization, an error was encountered while attempting to load the CL/CONFERENCE® log cluster. *service* may be on the following:

- **SHOWCB-1** : A SHOWCB for a VSAM ACB failed.
- **SHOWCB-2** : A SHOWCB for a VSAM RPL failed.
- **GENCBACB**: A GENCB for a VSAM ACB failed.
- **GENCBRPL**: A GENCB for a VSAM RPL failed.
- **OPEN**: An OPEN failed for the VSAM cluster.
- **PUT**: The initial load failed for the cluster.

**System action**

The CL/CONFERENCE® logging facility is unavailable.

**User response**

Using the RC and service name, determine the cause of the error, correct it, and restart TMS:Engine.

**Message Type**

ERROR

**KLVLIO01: LOCK MANAGER INTEGRITY ERROR****Explanation**

An internal error occurred while processing a lock.

**System action**

TMS:Engine terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

ALERT

**KLVL001: MAIN STORAGE SHORTAGE DETECTED, QUIESCE IN EFFECT****Explanation**

TMS:Engine detected a main storage shortage. To recover from the shortage, TMS:Engine will not accept any logons.

**System action**

Users cannot logon or start a session.

**User response**

None. However, if these messages occur frequently on your system, you should examine the memory allocation parameters that are in effect. These are the RKLVIN keywords MINIMUM, MAXIMUM, and RESERVE.

**Message Type**

ALERT

**KLVL002: MAIN STORAGE SHORTAGE RELIEVED, QUIESCE RELEASED****Explanation**

TMS:Engine detected main storage availability and released the quiesce caused by main storage shortage.

**System action**

TMS:Engine will now allow users to logon or start a session.

**User response**

None.

**Message Type**

REPLY

**KLVL003: LOGICAL RESOURCE INTEGRITY ERROR****Explanation**

While accessing the logical resource table, an integrity error was detected.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

## **KLVL004: PURGE/CLEANUP EXIT ERROR DETECTED, DUMP REQUESTED**

### **Explanation**

The TMS:Engine logical resource manager detected an error during resource purge or cleanup processing and has bypassed a purge/cleanup exit to avoid further problems.

### **System action**

A dump is produced because DEBUG(Y) is in effect. Some resources and storage may be hung.

### **User response**

Contact IBM® Software Support.

## **KLVL005: PURGE/CLEANUP EXIT ERROR DETECTED *resnum1* - *resname* - *resnum2***

### **Explanation**

The TMS:Engine logical resource manager detected an error during resource purge or cleanup processing and has bypassed a purge/cleanup exit to avoid further problems.

### **System action**

Some resources and storage may be hung.

### **User response**

Copy the exact contents of the message and contact IBM® Software Support. Be sure to include the debugging data fields *resnum1*, *resname*, and *resnum2* contained in the message.

## **KLVL006: LOGICAL RESOURCE CONTROL BLOCK ERROR**

### **Explanation**

An error was encountered while processing a resource manager request.

### **System action**

The current request is ignored and a U0100 abend is generated to supply information for the logic error.

### **User response**

Acquire the dump from the U0100 abend and contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVL007: MAXIMUM LOGICAL RESOURCE TABLE SIZE EXCEEDED - RESOURCE INITIALIZATION FAILED**

### **Explanation**

The maximum number of logical resources has been exceeded.

### **System action**

The current request is ignored. The system will continue running. As resources are freed, new resources can be created, but the stability of the system is unpredictable since it is not known what resources will be rejected.

### **User response**

Reduce activity on the system and contact IBM® Software Support.

**Message Type**

ALERT

**KLVLW001: RKLVLLOG IS CURRENTLY RECORDING ON *ddname*****Explanation**

In response to the TLVLOG TMS:Engine operator command, this message shows where TMS:Engine messages are currently being written to. *ddname* is the ddname being used for RKLVLLOG.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVLW002: MAXIMUM LINES: *maxlines*****Explanation**

In response to the TLVLOG TMS:Engine operator command, this message shows the maximum number of lines that will be written to the currently active RKLVLLOG before an automatic TLVLOG SWITCH is performed.

**System action**

None.

**User response**

None.

**Notes®**

If the value is zero, there is no maximum.

**Message Type**

REPLY

**KLVLW003: LINES WRITTEN: *lines*****Explanation**

In response to the TLVLOG, TMS:Engine operator command, this message shows the number of lines that have been written to the currently active RKLVLLOG.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

## KLVLW004: RKLVLLOG IS DISABLED BECAUSE OF AN I/O ERROR ON *ddname*

### Explanation

In response to the TLVLOG TMS:Engine operator command, this message reports that an error has caused TMS:Engine to stop writing messages to the RKLVLLOG file. *ddname* is the name of the DD to which TMS:Engine had been recording.

### System action

None.

### User response

Issue TLVLOG SWITCH to attempt to allocate a new RKLVLLOG dynamically.

### Message Type

REPLY

## KLVLW011: DYNAMIC ALLOCATION VALUES:

### Explanation

In response to the TLVLOG TMS:Engine operator command, this message precedes a set of KLVLW012 messages that show the values that will be used for the next RKLVLLOG dynamic allocation.

### System action

None.

### User response

None.

### Message Type

REPLY

## KLVLW012: *keyword - value*

### Explanation

Displays a RKLVLLOG dynamic allocation parameter and its value. Possible message text is as follows:

Table 135: RKLVLLOG dynamic allocation parameters and values (message KLVLW012)	
Keyword	Value
CLASS	The SYSOUT class.
COPIES	The number of copies.
DEST	The SYSOUT destination, if any.
FCD	The FCB name, if any.
FORM	The FORM name, if any.
HOLD	Whether the SYSOUT file will be placed in a operator hold (YES) or not (NO).
UCS	The UCS name, if any.
USER	The user ID associated with the SYSOUT destination, if any.
WTRNAME	The external writer name, if any.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVLW022: RKLVLLOG IS NOW RECORDING ON *ddname*****Explanation**

In response to a TLVLOG SWITCH request, TMS:Engine has dynamically allocated a SYSOUT field and is now writing RKLVLLOG messages to it. *ddname* is the new ddname.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVLW023: *ddname* DD HAS BEEN CLOSED AND RELEASED****Explanation**

In response to a TLVLOG SWITCH request, TMS:Engine has closed and dynamically deallocated the previous RKLVLLOG file. *ddname* is the ddname.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVLW027: COPIES MUST BE BETWEEN 1 AND 254****Explanation**

An invalid COPIES value was entered on a TLVLOG command. Only an integer between 1-254 is accepted.

**System action**

The command terminates.

**User response**

Reissue the command with a valid COPIES value.

**Message Type**

ERROR

## **KLVLW028: MAXLINES MUST BE BETWEEN 0 AND 16000**

### **Explanation**

An invalid MAXLINES value was entered on a TLVLOG command. Only an integer between 0-16000 is accepted.

### **System action**

The command terminates.

### **User response**

Reissue the command with a valid MAXLINES value.

### **Message Type**

ERROR

## **KLVLW029: HOLD VALUE MUST BE "YES" OR "NO"**

### **Explanation**

An invalid HOLD value was entered on a TLVLOG command. Only YES or NO is accepted.

### **System action**

The command terminates.

### **User response**

Reissue the command with a valid HOLD value.

### **Message Type**

ERROR

## **KLVLW031: RKLVLG SWITCH REQUESTED**

### **Explanation**

A TLVLOG SWITCH request has been accepted. TMS:Engine will allocate a new RKLVLG SYSOUT file and begin recording on it. Then close and release the old RKLVLG file. This message is followed by KLVLW022 and KLVLW023, which report successful processing.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVLW041: RKLVLG DATA SET DISABLED BY PERMANENT ERROR**

### **Explanation**

A BSAM WRITE issued against the currently active RKLVLG file failed because of a permanent error.

### **System action**

RKLVLG recording is suspended.

### User response

Refer to the z/OS® SYSLOG for any messages that may have been issued by the IBM® data management routines. Issue this command:

```
TLVLOG SWITCH
```

To attempt to allocate a new RKLVLLOG dynamically.

### Message Type

ALERT

## **KLVLW081: DYNAMIC ALLOCATION FAILED FOR RKLVLLOG: R15(*rc*) ERROR(*error*) INFO(*info*)**

### Explanation

A TLVLOG SWITCH request was not successful because the dynamic allocation for a new SYSOUT file failed. *rc* is the return code from the DYNALLOC request; *error* and *info* are the error and information reason codes.

### System action

The command terminates. The previous RKLVLLOG is still active.

### User response

Refer to RKLVLLOG or VIEWLOG for any KLVDAnn messages that may have been issued. Refer to *IBM® z/OS® MVS™ Programming: Authorized Assembler Services Reference* (GC28-1764 through GC28-1767) for DYNALLOC return codes.

### Message Type

LOG, ERROR

## **KLVLW082: COULD NOT OPEN *ddname* FOR RKLVLLOG**

### Explanation

A TLVLOG SWITCH request could not open a dynamically allocated SYSOUT file. *ddname* is the ddname that could not be opened.

### System action

The command terminates. The previous RKLVLLOG is still active; *ddname* remains allocated to the TMS:Engine address space.

### User response

Refer to SYSLOG for any IEFxxxxx messages that may describe the OPEN error.

### Message Type

LOG, ERROR

## **KLVLW083: DYNAMIC DEALLOCATION FAILED FOR RKLVLLOG: R15(*rc*) ERROR(*error*) INFO(*info*)**

### Explanation

A TLVLOG SWITCH request could not dynamically deallocate the RKLVLLOG JCL DD statement. *rc* is the return code from the DYNALLOC request; *error* and *info* are the error and information reason codes.

**System action**

The RKLVLOG JCL DD statement remains allocated to the TMS:Engine address space. Refer to *IBM® z/OS® MVS™ Programming: Authorized Assembler Services Reference* for DYNALLOC return codes.

**Message Type**

LOG, ERROR

**KLVLW084: \*SYSTLG\* OPERATOR LOGON FAILED****Explanation**

The pseudo-operator \*SYSTLG\* could not be initialized.

**System action**

\*SYSTLG\* will not be recognized if specified with the AS operator command. All other RKLVLOG processing continues normally.

**User response**

If you are using operator validation in a NAM user exit (for example, KLVA2NEV), ensure that the \*SYSTLG\* operator is authorized for logon.

**Message Type**

LOG, ERROR

**KLVLW091: STATISTICS SINCE STARTUP:****Explanation**

This is the header of the response to a TLVLOG STATS command. It will be followed by additional KLVLWnnn messages containing the various RKLVLOG counters.

**System action**

Processing continues.

**User response**

None.

**KLVLW092: LINES WRITTEN: nnnnnnn****Explanation**

The indicated number of lines have been written to RKLVLOG.

**System action**

Processing continues.

**User response**

None.

**KLVLW093: FULL BUFFER WRITES: nnnnnnn****Explanation**

The indicated number of buffer writes to RKLVLOG have been performed because the buffer was full.

**System action**

Processing continues.

**User response**

None.

**KLVLW094: OPER REQUESTED WRITES: *nnnnnnn*****Explanation**

The indicated number of writes to RKLVLLOG have been performed in response to operator requests.

**System action**

Processing continues.

**User response**

None.

**KLVLW095: WAITS FOR LOG BUFFERS: *nnnnnnn*****Explanation**

The system needed to wait the indicated number of times for an available log buffer.

**System action**

Processing continues.

**User response**

None.

**KLVNA001: SHOWCB FIELDS=(ACBLEN,RPLLEN) ERROR: R15(*r15*) R0(*r0*)****Explanation**

A VSAM SHOWCB was issued to find the ACB and RPL lengths and failed.

**System action**

NAM initialization terminates without processing any other control point specifications. Any NAM database is unavailable.

**User response**

Consult *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* to determine the reason the SHOWCB macro instruction failed. Return and reason codes are indicated in the *r15* and *r0* fields.

**Message Type**

WARNING

**KLVNA002: *parameters*****Explanation**

As the parameters in module KLVINNAM are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVNA003: DATABASE INACCESSIBLE, NO VSAM LSR RESOURCES:  
DSNAME(*dsname*) CNTRLPT(*cntrlpt*)****Explanation**

NAM database *dsname* on control point *cntrlpt* cannot be used because no LSR resources were allocated during start-up. The parameters required, as specified in the RKLVIN DD, are LSRKEYLN, LSRPOOL, and LSRSTRNO.

**System action**

TMS:Engine start-up terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

WARNING

**KLVNA004: DUPLICATE CONTROL POINT SPECIFICATION: CNTRLPT(*cntrlpt*)****Explanation**

The control point name *cntrlpt* specified in the initialization library member KLVINNAM is a duplicate.

**System action**

TMS:Engine initialization terminates.

**User response**

Correct the error in KLVINNAM and restart TMS:Engine.

**Message Type**

WARNING

**KLVNA005: DATABASE ALLOCATION FAILED: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

TMS:Engine was unable to allocate the data set *dsname*. The control point *cntrlpt* associated with the data set is also displayed.

**System action**

TMS:Engine start-up terminates.

**User response**

This message is accompanied by message KLVDA002, which gives a more specific reason for the error. Use the information provided to determine the cause of the error and restart TMS:Engine.

**Message Type**

WARNING

**KLVNA006: DATABASE INITIAL LOAD COMPLETE: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

Initialization has completed successfully for the NAM database *dsname* in control point *cntrlpt*.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVNA007: DATABASE *dsname* INITIAL LOAD *mm/dd/yy hh:mm:ss* ON *smfid*  
LAST ACCESSED *mm/dd/yy hh:mm:ss* ON *smfid2*****Explanation**

This message is logged to create an audit trail for each NAM database *dsname* specified in member KLVINNAM in the initialization library.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVNA008: KLVINNAM RKANPAR PARAMETERS:****Explanation**

Module KLVINNAM logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVNA002.

**System action**

None.

**User response**

None.

**Message Type**

LOG

## **KLVNA009: UNABLE TO LOAD USER SECURITY EXIT: EP(*member*)**

### **Explanation**

TMS:Engine was unable to LOAD the security exit member chosen as a security validation option. This message is accompanied by message KLVCM003, which provides a more specific reason for the error.

### **System action**

TMS:Engine start-up terminates.

### **User response**

If message KLVCM003 precedes this message, determine the cause of the error, correct it, and restart TMS:Engine. If KLVCM003 does not precede this message, ensure that the load module exists in the RKANMODL concatenation and restart TMS:Engine.

### **Message Type**

ERRO

## **KLVNA010: CONTROLPOINT *cntrlpt* INITIALIZED**

### **Explanation**

NAM control point *cntrlpt* has been initialized.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVNA011: DATABASE INITIALIZATION FAILED: DSNAME(*dsname*) CNTRLPT(*cntrlpt*)**

### **Explanation**

An error was encountered during NAM initialization of control point *cntrlpt*.

### **System action**

TMS:Engine initialization terminates.

### **User response**

Make sure that the NAM database is available and is not allocated by another region.

### **Message Type**

WARNING

## **KLVNA012: GENCB BLK=ACB ERROR: R15(*r15*) R0(*r0*)**

### **Explanation**

A VSAM GENCB that was issued to create an ACB failed.

**System action**

TMS:Engine initialization terminates.

**User response**

Consult the t *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* to determine the reason the GENCB macro instruction failed. Return and error codes are indicated in the r15 and r0 fields.

**Message Type**

WARNING

**KLVNA013: GENCB BLK=RPL ERROR: R15(*r15*) R0(*r0*)****Explanation**

A VSAM GENCB issued to create an RPL failed.

**System action**

TMS:Engine start-up terminates.

**User response**

Consult the *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* to determine the reason the GENCB macro instruction failed. Return and reason codes are indicated in the *r15* and *r0* fields.

**Message Type**

WARNING

**KLVNA014: UNABLE TO OPEN NAM DATABASE: DSNAME(*dsname*) DDNAME(*ddn*) R15(*r15*) ACBERFLG(*acberflg*)****Explanation**

An attempt by TMS:Engine to OPEN the NAM database *dsname* failed. More information is provided in the message for diagnostic purposes.

**System action**

TMS:Engine start-up terminates.

**User response**

Consult the t *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* to determine the reason the OPEN macro instruction failed. The return code is indicated in the *r15* field.

**Message Type**

WARNING

**KLVNA015: DATABASE INACCESSIBLE: DSNAME(*dsname*) CNTRLPT(*cntrlpt*)****Explanation**

The NAM database *dsname* is not accessible.

**System action**

TMS:Engine start-up terminates.

**User response**

Check the log for other messages concerning this data set to determine a more specific reason for the error. If none can be found, contact IBM® Software Support.

**Message Type**

WARNING

**KLVNA016: DATABASE RELATIVE KEY POSITION NOT 0: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

The NAM database *dsname* relative key position is not 0. The data set was not defined properly.

**System action**

TMS:Engine start-up terminates.

**User response**

Delete the NAM database in error, redefine it, and restart TMS:Engine. You may need to refer to the original installation procedures to determine the correct parameters when defining the NAM database.

**Message Type**

WARNING

**KLVNA017: DATABASE KEY LENGTH NOT *n*: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

While processing the NAM database *dsname* for control point *cntrlpt*, an error was detected in the key length. The length must be equal to *n*. Either an incorrect version of the NAM database is being used, or the database was not defined properly.

**System action**

TMS:Engine start-up terminates.

**User response**

Delete the NAM database in error, redefine it, and restart TMS:Engine. You may need to refer to the original installation procedures to determine the correct parameters when defining the NAM database.

**Message Type**

WARNING

**KLVNA018: DATABASE CONTROL RECORD NOT FOUND: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

While attempting to initialize the NAM environment for control point *cntrlpt*, an error was detected in the VSAM data set *dsname*. The control record for the database could not be located. This message is accompanied by KLVVS*nnn* messages, that give a more specific reason for failure to locate the record.

**System action**

TMS:Engine start-up terminates.

**User response**

Look in the log for other messages concerning this data set to determine a more specific reason for the error. If none can be found, contact IBM® Software Support.

**Message Type**

WARNING

**KLVA019: DATABASE INITIAL LOAD FAILED: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*) R15(*r15*) RPLERRCD(*rplerrcd*)****Explanation**

An I/O error was detected while processing the NAM cluster.

**System action**

TMS:Engine start-up fails.

**User response**

Consult the *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* to determine the reason the PUT macro instruction failed. Return and error codes are indicated in the *r15* and *rplerrcd* fields. If the error cannot be attributed to a user error, contact IBM® Software Support.

**Message Type**

WARNING

**KLVA020: *keyword(value)* IS INVALID FOR CNTRLPT(*cntrlpt*); DEFAULTS  
TO *def*****Explanation**

*keyword* in the KLVINNAM member of RKANPAR was specified with a value that is not a valid choice.

**System action**

The default value, *def*, will be used. TMS:Engine initialization continues.

**User response**

Correct the *keyword* value. If the default value is unacceptable, recycle TMS:Engine.

**Message Type**

WARNING

**KLVA021: DATABASE CONTROL RECORD UPDATE FAILED: DSNAME(*dsn*)  
CNTRLPT(*cntrlpt*)****Explanation**

During NAM initialization, TMS:Engine attempted to update the database (*dsn*) associated with control point *cntrlpt*. The update failed.

**System action**

NAM initialization continues, to identify any other errors. TMS:Engine will terminate after NAM initialization finishes.

**User response**

Review RKLVLLOG for KLVVS0nn messages that will identify the error. Correct the error and restart TMS:Engine.

**Message Type**

WARNING

## **KLVNA022: MODCB BLK=ACB ERROR: R15(*r15*) R0(*r0*)**

### **Explanation**

During NAM initialization, TMS:Engine attempted to update a VSAM ACB. The update failed.

### **System action**

NAM initialization continues, to identify any other errors. TMS:Engine will terminate after NAM initialization finishes.

### **User response**

Consult the t *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* to determine the reason the MODCB macro instruction failed. Return and reason codes are indicated in the *r15* and *r0* fields.

### **Message Type**

WARNING

## **KLVNA023: DATABASE DSNAME RETRIEVAL FAILED, RC(*rc*) ERROR(*error*) INFO(*info*) DDNAME(*ddn*) CNTRLPT(*cntrlpt*)**

### **Explanation**

During NAM initialization, an attempt to determine the data set name associated with DD *ddn*. The z/OS® DYNALLOC function failed with the indicated return, error, and info codes.

### **System action**

NAM initialization continues, to identify any other errors. TMS:Engine will terminate after NAM initialization finishes.

### **User response**

Consult the *IBM® z/OS® MVS™ Programming: Authorized Assembler Services Reference* to determine the reason DYNALLOC failed.

### **Message Type**

WARNING

## **KLVNA024: DATA=*xxxxxxxx* IS INVALID**

### **Explanation**

The value specified for the DATA parameter in the KLVINNAM member is not valid. The valid values are **ABOVE** and **BELOW**.

### **System action**

Initialization is terminated.

### **User response**

Edit the KLVINNAM member and correct the parameter specification.

### **Message Type**

WARNING

## **KLVNA025: CONTROL POINT OPTIONS NOT VALID WITH DATA=**

### **Explanation**

Control point options may not be specified when the DATA parameter is specified.

**System action**

Initialization is terminated.

**User response**

Edit the KLVINNAM member and correct the parameter specification.

**Message Type**

WARNING

**KLVNA026: DATA= ALREADY DEFINED; IGNORED****Explanation**

The DATA parameter is specified more than once in the KLVINNAM member.

**System action**

The first specification is used and the second specification is ignored. Processing continues.

**User response**

Edit the KLVINNAM member and correct the parameter specification.

**Message Type**

WARNING

**KLVNA027: VALUE FOR KEYWORD REUSEPW(*nnnn*) IS INVALID, DEFAULTING TO 8, VALUES FROM 0 TO 8 ARE ACCEPTED.****Explanation**

The value of the REUSEPW parameter is not a decimal integer between 0 and 8.

**System action**

The value of the REUSEPW parameter is assumed to be **8** and processing continues.

**User response**

Edit the KLVINNAM member and correct the parameter specification.

**Message Type**

WARNING

**KLVNA028: UNABLE TO LOAD USER PARAMETER EXIT: EP(*nnnnnnnn*)****Explanation**

The indicated user parameter exit was specified, but no routine by that name can be found.

**System action**

Initialization is terminated.

**User response**

Edit the KLVINNAM member and correct the parameter specification. If the parameter value is correct, check to insure that the load module *nnnnnnnn* exists in a data set accessible to IBM® Tivoli® Monitoring.

**Message Type**

WARNING

## **KLVNA029: CONTROL POINT OPTIONS NOT VALID WITH FIELDEXIT=**

### **Explanation**

Control point options may not be specified when the FIELDEXIT parameter is specified.

### **System action**

Initialization is terminated.

### **User response**

Edit the KLVINNAM member and correct the parameter specification.

### **Message Type**

WARNING

## **KLVNA030: DUPLICATE FIELDEXIT PARAMETER ENCOUNTERED**

### **Explanation**

More than one FIELDEXIT parameter was found in the KLVINNAM member.

### **System action**

The first FIELDEXIT parameter is used and any others are ignored. Processing continues.

### **User response**

Edit the KLVINNAM member and correct the parameter specification.

### **Message Type**

WARNING

## **KLVNA031: CLASSES DESCRIPTION NOT FOUND: CNTRLPT(*cntrlpt*) RKANPAR(RKANPAR)**

### **Explanation**

The member specified on the CLASSES= parameter of control point cntrlpt was not found in RKANPAR.

### **System action**

TMS:Engine start-up fails.

### **User response**

Make sure that the correct member name of the protected class list is specified, and try again.

### **Message Type**

ALERT

## **KLVNA032: DUPLICATE CLASS DEFINITION: CNTRLPT(*cntrlpt*) RKANPAR(RKANPAR) LINE(*line*)**

### **Explanation**

The resource class name specified has already been defined.

### **System action**

TMS:Engine start-up fails.

**User response**

Make sure all resource class names are unique and try again.

**Message Type**

ALERT

**KLVNA033: INVALID READAUTH BYTE X'*xx*', CNTRLPT(*nnnnnnnn*)  
*ddname(member)*****Explanation**

The value specified for READAUTH for control point *nnnnnnnn* in the specified member is not valid.

**System action**

Initialization is terminated.

**User response**

Edit the indicated member and correct the parameter specification.

**Message Type**

ALERT

**KLVNA034: DATABASE ALLOCATION FAILED - RESOURCE ERROR:  
DSNAME(*dsname*) CNTRLPT(*cntrlpt*)****Explanation**

TMS:Engine was unable to allocate the data set *dsname*, because of a logical resource manager error. The control point *cntrlpt* associated with the data set is also displayed.

**System action**

TMS:Engine start-up terminates.

**User response**

This error is probably due to insufficient free storage. Make sure storage pre-allocated by RKANPAR member KLVINSTG has not depleted all storage specified by the MAXIMUM parameter in RKLVIN.

**Message Type**

WARNING

**KLVNA035: DATABASE ALLOCATION FAILED: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

TMS:Engine was unable to allocate the data set *dsname*. The control point *cntrlpt* associated with the data set is also displayed.

**System action**

TMS:Engine start-up terminates.

**User response**

Review RKLVLLOG for message KLVDA002 followed by IBM® IKJ message from SVC99. Correct the problem and retry.

**Message Type**

WARNING

**KLVNA036: CONTROL POINT OPTIONS NOT VALID WITH VALIDATE=****Explanation**

The VALIDATE keyword was specified on the same logical statement as the controlpoint definition in member KLVINNAM in the initialization library.

**System action**

TMS:Engine start-up terminates.

**User response**

Make sure the VALIDATE keyword has been specified as a separate logical statement from the controlpoint definition and try again.

**Message Type**

WARNING

**KLVNA037: VALIDATE= *validagte* IS INVALID****Explanation**

An invalid value for the VALIDATE keyword was specified in member KLVINNAM in the initialization library.

**System action**

TMS:Engine start-up terminates.

**User response**

Make sure the VALIDATE keyword value is either SINGLE or MULTIPLE and try again.

**Message Type**

WARNING

**KLVNA038: VALIDATE= ALREADY DEFINED; IGNORED****Explanation**

The VALIDATE keyword was specified more than once in member KLVINNAM in the initialization library.

**System action**

TMS:Engine start-up continues. The duplicate keyword is ignored.

**User response**

Remove the duplicate keyword.

**Message Type**

WARNING

**KLVNA039: CONTROL POINT OPTIONS NOT VALID WITH FOLD=****Explanation**

Control point options may not be specified when the FOLD parameter is specified.

**System action**

Initialization is terminated.

**User response**

Edit the KLVINNAM member and correct the parameter specification.

**Message Type**

WARNING

**KLVNA040: FOLD= ALREADY DEFINED; IGNORED****Explanation**

More than one FOLD parameter was found in the KLVINNAM member.

**System action**

The first FOLD parameter is used and any others are ignored. Processing continues.

**User response**

Edit the KLVINNAM member and correct the parameter specification.

**Message Type**

WARNING

**KLVNA041: FOLD=*xxxx* IS INVALID****Explanation**

The value specified for the FOLD parameter in the KLVINNAM member is not valid. The valid values are **YES** and **NO**.

**System action**

Initialization is terminated.

**User response**

Edit the KLVINNAM member and correct the parameter specification.

**Message Type**

WARNING

**KLVNA042: SAF PROFILE *ssss.jjjjjjjj*.KLVINNAM.FOLD READING *safrc racfrc racfrsn*****Explanation**

Class \$KOBSEC is always checked for a profile that matches *ssss.jjjjjjjj*.KLVINNAM.FOLD; this message displays the SAF return code, RACF return code, and RACF reason code from that SAF call. *ssss* is the smfid and *jjjjjjjj* is the started-task name.

**System action**

TMS:Engine start-up continues.

**User response**

If the SAF profiles are not in use to specify the FOLD and CNTRLPT parameters, then a non-zero SAF return code is expected and those parameters will be read from RKANPARU(*Kxx*INNAM).

**Message Type**

INFO

**KLVNA043: CONTROL POINT IGNORED CNTRLPT(*cntrlpt*). SAF PROFILE IS USED.****Explanation**

Control point *cntrlpt* was found in RKANPARU(KxxINNAM) but was ignored because SAF profiles were in use.

**System action**

TMS:Engine start-up continues.

**User response**

None required. This message can be avoided by removing or commenting out the CNTRLPT parameters in RKANPARU(KxxINNAM).

**Message Type**

INFO

**KLVNA044: NO APPLDATA RETURNED FOR SAF PROFILE (*ssss.jjjjjjjj.KLVINNAM.cntrlpt*)****Explanation**

This profile was found but the APPLDATA does not contain any CNTRLPT parameters.

**System action**

Initialization is terminated.

**User response**

Ensure that the required CNTRLPT parameters are added to this profile.

**Message Type**

WARNING

**KLVNA045: NO CONTROL POINTS FOUND IN SAF PROFILES****Explanation**

Profile *ssss.jjjjjjjj.KLVINNAM.FOLD* was found, but no *ssss.jjjjjjjj.KLVINNAM.cntrlpt* profiles were found.

**System action**

Initialization is terminated.

**User response**

If SAF profile control of CNTRLPT parameters is required, there needs to be at least one *ssss.jjjjjjjj.KLVINNAM.cntrlpt* profile with valid APPLDATA; if SAF profile control of CNTRLPT parameters is not required, remove profile *ssss.jjjjjjjj.KLVINNAM.FOLD*.

**Message Type**

WARNING

**KLVNA046: TOO MANY CONTROL POINTS FOUND IN SAF PROFILES****Explanation**

More than 99 *ssss.jjjjjjjj.KLVINNAM.cntrlpt* profiles were found.

**System action**

Initialization is terminated.

**User response**

Reduce the number of `ssss.jjjjjjjj.KLVINNAM.cntrlpt` profiles to be 99 or fewer.

**Message Type**

WARNING

**KLVNA047: safprofilename****Explanation**

This shows which profile matched the current resource.

**System action**

TMS:Engine start-up continues.

**User response**

None required.

**Message Type**

INFO

**KLVNA101: UNABLE TO ACCESS NAM DATABASE: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)****Explanation**

The network access manager (NAM) was called to validate security for a user. DB was specified as an option for the control point *cntrlpt*, but the database associated with the control point could not be accessed.

**System action**

Security validation fails and the user is logged off.

**User response**

Check initialization library member KLVINNAM to verify that the control point and database have been defined correctly.

**Message Type**

ALERT

**KLVNA102: USER NOT DEFINED: CNTRLPT(*cntrlpt*) USERID(*userid*)  
[GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]****Explanation**

Security validation for the specified user failed when the network access manager (NAM) was called. The supplied user ID is invalid. This message can be generated if the address space is not APF-authorized. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

**System action**

This message is installation specific. The system action depends on the configuration of NAM. If using NAM to do the validation, the userid was not defined in the NAM database. If using a NAM exit, the external security

package was unable to locate the userid. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

#### User response

If you are a user viewing this message on your screen, re-enter a valid user ID. Verify that the address space is APF-authorized.

#### Message Type

INFO

### **KLVNA103: PASSWORD NOT AUTHORIZED: CNTRLPT(*cntrlpt*) USERID(*userid*) [GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

#### Explanation

Security validation for the specified user failed when the network access manager (NAM) was called. The password supplied is invalid for the userid. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

#### System action

This message is installation specific. The system action depends on the configuration of NAM. If using NAM to do the validation, the password defined in the NAM database was different than the one entered at the terminal. If using a NAM exit, the external security package detected a different password than the one defined for the user. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

#### User response

If you are a user viewing this message on your screen, supply a correct password.

#### Message Type

INFO, VIEW

### **KLVNA104: CURRENT PASSWORD EXPIRED: CNTRLPT(*cntrlpt*) USERID(*userid*) [GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

#### Explanation

Security validation for the specified user failed when the network access manager (NAM) was called. The current password has expired. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

#### System action

This message is installation specific. The system action depends on the configuration of NAM. If using NAM to do the validation, the password defined in the NAM database has expired. If using a NAM exit, the password defined to the external security package has expired. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

#### User response

If you are a user viewing this message on your screen, supply a new password.

## Message Type

INFO, VIEW

### **KLVNA105: NEW PASSWORD INVALID: CNTRLPT(*cntrlpt*) USERID(*userid*) [GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

#### Explanation

Security validation for the specified user failed when the network access manager (NAM) was called. The new password was invalid. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

#### System action

This message is installation specific. The system action depends on the configuration of NAM. If using NAM to do the validation, the new password passed to NAM was invalid. If using a NAM exit, the new password passed to the external security package was invalid. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

#### User response

If you are a user viewing this message on your screen, supply a valid new password.

## Message Type

INFO, VIEW

### **KLVNA106: USER NOT DEFINED TO GROUP: CNTRLPT(*cntrlpt*) USERID(*userid*) [GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

#### Explanation

Security validation for the specified user failed when the network access manager (NAM) was called. The user *userid* is not defined to the group specified. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

#### System action

This message is installation specific. This message will appear with the use of an external security package. The group supplied for the entered userid was not valid. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

#### User response

If you are a user viewing this message on your screen, specify a valid group for the userid supplied.

## Message Type

INFO, VIEW

**KLVNA107: USER ACCESS REVOKED: CNTRLPT(*cntrlpt*) USERID(*userid*)  
[GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

**Explanation**

Security validation for the specified user failed when the network access manager (NAM) was called. The user (*userid*) access has been revoked. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

**System action**

This message is installation specific. This message will appear with the use of an external security package. Access will no longer be allowed for this userid due to excessive invalid password attempts, userid expiration, or some other internal processing by the external security package. This message will appear in RKLVLLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

**User response**

Access has been revoked for this userid. Contact your security administrator for the external security package and have the userid reset.

**Message Type**

INFO, VIEW

**KLVNA108: GROUP ACCESS REVOKED: CNTRLPT(*cntrlpt*) USERID(*userid*)  
[GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

**Explanation**

Security validation for the specified user failed when the network access manager (NAM) was called. Access to the group supplied has been revoked for this userid. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

**System action**

This message is installation specific. This message will appear with the use of an external security package. Access will no longer be allowed for this userid/group due to excessive invalid password attempts, userid expiration, or some other internal processing by the external security package. This message will appear in RKLVLLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

**User response**

Access has been revoked for this userid/group combination. Contact your security administrator for the external security package and have the userid reset.

**Message Type**

INFO, VIEW

## **KLVNA109: TERMINAL NOT AUTHORIZED: CNTRLPT(*cntrlpt*) USERID(*userid*) [GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

### **Explanation**

Security validation for the specified user failed when the network access manager (NAM) was called. The user *userid* is not authorized to use this terminal. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

### **System action**

This message is installation specific. This message will appear with the use of an external security package. Access is not allowed for the *userid* from the terminal where signon was attempted. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

### **User response**

If you are a user viewing this message on your screen, correct the *userid* or signon from a different terminal. If the problem persists, contact the security administrator for the external security package.

### **Message Type**

INFO, VIEW

## **KLVNA110: APPLICATION NOT AUTHORIZED: CNTRLPT(*cntrlpt*) USERID(*userid*) [GROUP(*group*)] [TERM(*terminal*)] [APPL(*appl*)]**

### **Explanation**

Security validation for the specified user failed when the network access manager (NAM) was called to validate security. The user *userid* is not authorized to use the specified application. Fields of interest are the control point name *cntrlpt*, the userid *userid*, the group *group*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

### **System action**

This message is installation specific. This message will appear with the use of an external security package. Access is not allowed for the *userid* to the application where the signon was attempted. The *userid* is restricted to a set of applications and the application where the signon was attempted was not one of those. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

### **User response**

If you are a user viewing this message on your screen, correct the *userid* or signon to a different application. If the problem persists, contact the security administrator for the external security package.

### **Message Type**

INFO, VIEW

**KLVNA111: OPERATOR NOT AUTHORIZED: CNTRLPT(*cntrlpt*)  
[OPERATOR(*operator*)] [TERM(*terminal*)] [APPL(*appl*)]**

**Explanation**

Security validation for the specified user failed when the Network Access Manager (NAM) was called. The operator *operator* is not authorized to use the TMS:Engine operator facility. Fields of interest are the control point name *cntrlpt*, the operator id *operator*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

**System action**

This message is installation specific. This message will appear with the use of an external security package. Access is not allowed for the userid to the TMS:Engine operator facility by the external security package. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

**User response**

If you are a user viewing this message on your screen, correct the operator ID. If the problem persists, contact your security administrator for the security package.

**Message Type**

INFO, VIEW

**KLVNA112: COMMAND NOT AUTHORIZED: CNTRLPT(*cntrlpt*)  
[OPERATOR(*operator*)] [COMMAND(*command*)] [TERM(*terminal*)]  
[APPL(*appl*)]**

**Explanation**

Security validation for the specified user failed when the network access manager (NAM) was called. The operator *operator* is not authorized to issue the specified command. Fields of interest are the control point name *cntrlpt*, the operator ID *operator*, the command *command*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

**System action**

The command terminates. This message is installation specific. This message will appear with the use of an external security package. The operator command entered was not allowed by the external security package. This message will appear in RKLVLOG and may be seen at the terminal if the external security package has not passed a message back to NAM. If a message was passed back by the external security package, that message will be seen.

**User response**

If you are a user viewing this message on your screen, correct the command or validate the command. If the problem persists, contact your security administrator for the external security package.

**Message Type**

INFO, VIEW

**KLVNA113: PARAMETER REJECTED BY USER EXIT: CNTRLPT(*cntrlpt*)  
[OPERATOR(*operator*)] [COMMAND(*command*)] [TERM(*terminal*)] [APPL(*appl*)**

**Explanation**

A NAM FIELDEXIT has determined that a NAM request field is not valid. The exit should have provided additional messages about the error. Fields of interest are the control point name *cntrlpt*, the operator ID *operator*, the command *command*, the terminal name *terminal*, and the application name *appl*. The control point name *cntrlpt* may be in the form *cntrlpt1-cntrlpt2*, where *cntrlpt1* refers to the control point used and *cntrlpt2* to the control point requested. The message is logged to create an audit trail, but this can be overridden at start-up time.

**System action**

The function is not completed. This message is installation specific, and may be generated for any NAM function. This message will appear in RKLVLLOG.

**User response**

Contact your system programmer to determine why the installation exit has rejected the value.

**Message Type**

INFO, VIEW

**KLVNA114: PASSTICKET REQUEST NOT AUTHORIZED: CNTRLPT(*cntrlpt*)  
[OPERATOR(*operator*)] [COMMAND(*command*)] [TERM(*terminal*)] [APPL(*appl*)**

**Explanation**

A NAM PASSTICKET request has been denied by the NAM user exit and the exit has not supplied an override message.

**System action**

No PassTicket is generated.

**User response**

Contact your security administrator to ensure that you are authorized to generate a PassTicket for the destination application and userid.

**Message Type**

INFO, VIEW

**KLVNA151: UNABLE TO ACCESS NAM DATABASE: DSNAME(*dsname*)  
CNTRLPT(*cntrlpt*)**

**Explanation**

Security validation for the specified user failed when NAM was called. The database specified as an option for the control point *cntrlpt* could not be accessed.

**System action**

Security validation fails and the user is logged off.

**User response**

Check the definitions of the control point and the database in the initialization library member KLVINNAM.

**Message Type**

ALERT

## **KLVA251: UNABLE TO {DELETE | DEFINE} SAF RESOURCE LIST: CLASS(*class*) R15(*r15*)**

### **Explanation**

The RACROUTE macro was issued to build or delete an in-storage profile for class *class* and failed. *r15* is the code returned by RACROUTE.

### **System action**

For DELETE, the in-storage profile remains in virtual storage. For DEFINE, the profile is unavailable.

### **User response**

Refer to *RACROUTE Macro Reference for MVS™ and VM* (GC28-1366) for the meaning of *r15*.

### **Message Type**

INFO

## **KLVA252: UNABLE TO {DELETE | DEFINE} RACF® RESOURCE LIST: CLASS(*class*) R15(*r15*)**

### **Explanation**

The RACLIST macro was issued to build or delete an in-storage profile for class *class* and failed. *r15* is the code returned by RACLIST.

### **System action**

For DELETE, the in-storage profile remains in virtual storage. For DEFINE, the profile is unavailable.

### **User response**

Refer to the *RACROUTE Macro Reference for MVS™ and VM* for the meaning of *r15*.

### **Message Type**

INFO

## **KLVA253: RESOURCE LIST BUILD DISABLED, NOT APF AUTHORIZED**

### **Explanation**

An attempt was made (either at initialization or through the NAM RACLIST command) to build an in-storage profile (for use by your security system). The attempt failed because the address space is not APF-authorized.

### **System action**

TMS:Engine will use RACHECK macros instead of FRACHECK to verify security access.

### **User response**

If you desire in-storage profiles, APF authorize the address space. If your security system does not provide in-storage profiles, or you have specified your own security exits in KLVINNAM, you may ignore this message.

### **Message Type**

INFO

## **KLVNA254: UNABLE TO CREATE DUMMY ACEE: RC(rc)**

### **Explanation**

The NAM RACLIST command was issued to refresh in-storage profiles, but failed because a dummy ACEE could not be created.

### **System action**

The command is ignored.

### **User response**

Use the return code to determine the reason for the RACROUTE (or possibly RACINIT failure). Refer to the *IBM® z/OS® MVS™ Programming: Authorized Assembler Services Reference* for the meaning of *rc*.

### **Message Type**

INFO

## **KLVNA255: UNABLE TO DELETE DUMMY ACEE: RC(rc)**

### **Explanation**

The NAM RACLIST command was issued to refresh in-storage profiles. The refresh was successful, but the dummy ACEE could not be deleted.

### **System action**

The ACEE remains active.

### **User response**

Use the return code to determine the reason for the RACROUTE (or possibly RACINIT failure). Refer to IBM's RACROUTE Macro Reference (RACROUTE) or *IBM® z/OS® MVS™ Programming: Authorized Assembler Services Reference* for the meaning of *rc*.

### **Message Type**

INFO

## **KLVNA256: REFRESH OF RESOURCE PROFILES COMPLETE**

### **Explanation**

The NAM RACLIST command was issued to refresh in-storage profiles. The refresh was successful.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVNT001: "NTD *dialog*" DIALOG MANAGER INIT FAILED**

### **Explanation**

While performing an NTD operator command, TMS:Engine could not initialize the dialog manager for the dialog, *dialog*.

**System action**

The NTD command terminates.

**User response**

Save the z/OS® SYSLOG, and the TMS:Engine RKLVLLOG and run sheets. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVT002: "NTD *dialog*" DIALOG INVOCATION FAILED; DIALOG MANAGER RC(*rc*)****Explanation**

The non-terminal dialog, *dialog*, failed with a return code of *rc*.

**System action**

The NTD command terminates.

**User response**

Refer to message KLVD011 for a list of return codes, their meanings, and responses.

**Message Type**

ERROR

**KLVO001: OPERATOR(*operid*) ddname(*member*) LINE(*nnnn*) 'cccccccc'****Explanation**

The command *cccccccc* from line *nnnn* in the indicated member is being processed on behalf of *operid*.

**System action**

The command is processed.

**User response**

None.

**Message Type**

LOG

**KLVO002: INVALID COMMAND BUFFER [*text*]****Explanation**

A zero or negative length was received by the TMS:Engine command processor. The optional *text* may be added by TMS:Engine modules to further describe the error.

**System action**

The current operation terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

## **KLTOP003: INVALID OPERATOR ID [*text*]**

### **Explanation**

A command was issued specifying an inactive operator ID. This typically occurs when the AS command is issued just as the operator the command was directed to was logging off. The optional *text* may be added by TMS:Engine modules to further describe the error.

### **System action**

The command terminates.

### **User response**

If the command cannot be attributed to a user error, contact IBM® Software Support.

### **Message Type**

ERROR

## **KLTOP004: APPLICATION NOT ACTIVE [*text*]**

### **Explanation**

A command was issued and directed to an inactive TMS:Engine application. The optional *text* may be added by TMS:Engine modules to further describe the error.

### **System action**

The command terminates.

### **User response**

Validate the application ID and reissue the command.

### **Message Type**

ERROR

## **KLTOP005: APPLICATION NOT ACCEPTING COMMANDS [*text*]**

### **Explanation**

A command was issued and directed to an TMS:Engine application that does not have a common interface. The optional *text* may be added by TMS:Engine modules to further describe the error.

### **System action**

The command terminates.

### **User response**

Validate the application applid to determine if a command interface is defined. Reissue the command specifying a valid application name.

### **Message Type**

ERROR

## **KLTOP006: COMMAND NOT FOUND [*text*]**

### **Explanation**

The command or CLIST issued could not be located. The optional *text* may be added by TMS:Engine modules to further describe the error.

**System action**

The command fails.

**User response**

Verify that:

1. The command issued is a valid TMS:Engine command, or
2. The CLIST is located in the TMS:Engine command library (RKANCMD).

**Message Type**

ERROR

**KLTOP007: COMMAND NOT AUTHORIZED [*text*]****Explanation**

An TMS:Engine command issued by an unauthorized operator. The optional *text* may be added by TMS:Engine modules to further describe the error.

**System action**

The command fails.

**User response**

None.

**Message Type**

ERROR

**KLTOP008: *clist* CLIST COMPLETED****Explanation**

The RKANCMD clist member *clist* has completed execution.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLTOP009: *command* COMMAND COMPLETED****Explanation**

The command *command* has completed its output.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLTOP011: INVALID CLASS NAME: *class*****Explanation**

The DISPLAY command was issued with an invalid class *class*.

**System action**

The command fails.

**User response**

Re-enter the command with a valid class.

**Message Type**

ERROR

**KLTOP012: \*\*\* ACTIVE RESOURCE LIST \*\*\* *class.arg: USE(user) TOKEN(rsid) OWNER(owner) class.arg: USE(user) TOKEN(rsid) n OF m RESOURCES DISPLAYED*****Explanation**

The DISPLAY command was issued and the resource list specified is displayed. Fields of interest are the class name *class*, the resource number *rsid* and the owner ID *owner*.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLTOP021: SHUTDOWN COMMAND IGNORED, IMMEDIATE SHUTDOWN ALREADY IN PROGRESS****Explanation**

The user has entered a SHUTDOWN command while an immediate shutdown was in progress.

**System action**

The command is ignored.

**User response**

None.

**Message Type**

INFO

## **KL VOP022: SHUTDOWN MUST BE CONFIRMED WITHIN *confirm* SECONDS**

### **Explanation**

The SHUTDOWN command was issued requesting TMS:Engine termination. A confirming SHUTDOWN command must be issued within *confirm* seconds, where *confirm* is the number of seconds that can occur between initial and confirming shutdown requests. This is a TMS:Engine initialization parameter with a default value of 15 seconds.

### **System action**

TMS:Engine shutdown proceeds if confirmed within confirm seconds.

### **User response**

Issue another SHUTDOWN command so TMS:Engine termination can proceed.

### **Message Type**

REPLY, INFO

## **KL VOP023: SHUTDOWN STARTED BY *operator* AT *device***

### **Explanation**

TMS:Engine shutdown was requested and confirmed, and shutdown is proceeding. The *operator* and *device* identify the origin of the command.

### **System action**

None.

### **User response**

None.

### **Message Type**

WARNING

## **KL VOP024: SHUTDOWN PROCEEDING: *rescnt* RESOURCE(S) OUTSTANDING**

### **Explanation**

TMS:Engine termination was requested and confirmed, and termination is proceeding. The number *rescnt* refers to the number of resources awaiting termination.

### **System action**

None.

### **User response**

Issue a second SHUTDOWN command to perform an immediate shutdown and terminate all outstanding resources.

### **Message Type**

INFO, VIEW

## **KL VOP025: *number* SUBTASK(S) QUIESCED: DQA(*addr*)**

### **Explanation**

This message is logged to create an audit trail of each active subtask quiesced during TMS:Engine termination.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLTOP026: SUBTASK *subtask* DETACHED****Explanation**

This message is logged to create an audit trail of the detachment of each subtask during TMS:Engine termination.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLTOP027: SHUTDOWN COMPLETE, *nnnnK* PRIMARY STORAGE UNUSED****Explanation**

TMS:Engine termination has completed. The unused storage figure gives a rough guide to the remaining capacity in the current configuration.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLTOP028: CONFIRMATION NOT RECEIVED, SHUTDOWN BYPASSED****Explanation**

A confirming shutdown request was not issued in the allotted confirm seconds, where confirm is the number of seconds that can occur between initial and confirming shutdown requests. This is a TMS:Engine initialization parameter with a default value of 15 seconds.

**System action**

The shutdown request fails.

**User response**

Issue or confirm another initial shutdown request if TMS:Engine is to be terminated.

**Message Type**

ALERT

**KL VOP029: ABNORMAL TERMINATION REQUESTED BY SHUTDOWN****Explanation**

The SHUTDOWN command with the abend option was requested.

**System action**

TMS:Engine terminates with a dump.

**User response**

Contact IBM® Software Support.

**Message Type**

ALERT

**KL VOP030: IMMEDIATE SHUTDOWN STARTED BY *operator* AT *device*****Explanation**

The CONFIRM initialization parameter is zero for the SHUTDOWN command issued by operator *operator* at device *device*.

**System action**

TMS:Engine terminates.

**User response**

None.

**Message Type**

REPLY, WARNING

**KL VOP031: REPEATING COMMAND SCHEDULED EVERY *n*/****Explanation**

The TMS:Engine EVERY command was issued.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP032: ZERO INTERVAL NOT ALLOWED ON "EVERY" COMMAND****Explanation**

The TMS:Engine EVERY command was issued with zero as time interval operand.

**System action**

The "EVERY" command is ignored.

**User response**

Re-issue the command with a non-zero time interval operand.

**Message Type**

REPLY

**KLVOP033: TIME INTERVAL GREATER THAN 24:00:00 SPECIFIED****Explanation**

The TMS:Engine EVERY command was issued with a time interval operand which evaluated to greater than 24 hours.

**System action**

The "EVERY" command is ignored.

**User response**

Re-issue the command with a time interval operand that evaluates to less than 24 hours.

**Message Type**

REPLY

**KLVOP041: SESSION PASSED: LU(*luname*) DEST(*applid*)****Explanation**

LU *luname* was successfully passed to destination *applid* by the LOGOFF command.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVOP042: UNABLE TO PASS SESSION: LU(*luname*) R15 (*r15*) SENSE(*sensors*)****Explanation**

An unsuccessful attempt was made to pass LU *luname* to another application by the LOGOFF command.

**System action**

None.

**User response**

Use *IBM® z/OS® Communications Server SNA Programming* and the *r15* and *SENSE sensors* fields to determine the reason the CLSDST macro instruction failed and take appropriate corrective action. The SENSE field format is explained in "[TMS:Engine codes](#)" on [page 2386](#).

**Message Type**

ERROR

**KL VOP043: SESSION TERMINATION PENDING: LU(*luname*)****Explanation**

The LOGOFF command was issued specifying termination of the session between an active TMS:Engine application and the logical unit *luname*.

**System action**

The session between TMS:Engine and *luname* is enabled for termination. Termination is pending.

**User response**

None.

**Message Type**

REPLY

**KL VOP044: SESSION *luname* NOT FOUND****Explanation**

The TMS:Engine LOGOFF command was issued, but the session between an active TMS:Engine application and the LU *luname* could not be found.

**System action**

The command fails.

**User response**

Validate the name of the logical unit in question and reissue the command.

**Message Type**

ERROR

**KL VOP046: SESSION TERMINATED: LU(*lu*)****Explanation**

The session between an active TMS:Engine application and logical unit *lu* has been terminated by the LOGOFF command.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

## **KL VOP052: UNABLE TO LOAD APPLICATION EXIT: APPLID(*applid*) EXIT(*exit*)**

### **Explanation**

The OPEN command was issued, but TMS:Engine could not load the application module(s) associated with *applid*. This message is accompanied by message KL VCM003, which gives a more specific reason why the module could not be loaded.

### **System action**

The application is not opened.

### **User response**

Be sure that any module referenced on the open command is located in the TMS:Engine load library.

### **Message Type**

ERROR

## **KL VOP053: APPLICATION STARTED: APPLID(*applid*)**

### **Explanation**

The application *applid* was started successfully by the OPEN command.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO, REPLY

## **KL VOP054: UNABLE TO INITIALIZE VTAM® ACB: APPLID(*applid*)**

### **Explanation**

An attempt to allocate and initialize a VTAM® ACB with the OPEN command is unsuccessful.

### **System action**

The OPEN command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KL VOP055: APPLICATION STOPPED: APPLID(*applid*)**

### **Explanation**

TMS:Engine application *applid* terminates successfully.

### **System action**

None.

**User response**

None.

**Message Type**

INFO

**KL VOP061: SYSTEM OPERATORS: ID(*operator*) DEV(*dev*) PEND(*pendnum*)  
LIMIT(*oplimit*)****Explanation**

The TMS:Engine OPERS command was issued. Each active operator *operator* at logical unit *dev* is displayed. Fields of interest are the number of characters comprising the pending messages *pendnum* and the maximum number of characters that may be pending *oplimit*.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP071: PROFILE OPTIONS: [GLOBAL] [LOCAL] [FOLD *arg*] [SCP] [LIMIT=*n*]****Explanation**

The PROFILE command was issued. The current operator characteristics are displayed.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP081: MESSAGE FROM *operator* AT *device message*****Explanation**

The SEND command was issued by operator *operator* at logical unit *device*. Message *message* was sent to the current operator.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

## **KL VOP082: OPERATOR *operator* NOT LOGGED ON**

### **Explanation**

The SEND command was issued specifying that a message be routed to operator *operator*, but the operator was not logged on.

### **System action**

The command fails.

### **User response**

Validate the parameter operator using the OPERS command and reissue the original command.

### **Message Type**

ERROR

## **KL VOP101: APPLID *applid* NOT ACTIVE**

### **Explanation**

The LOGON command attempted to initiate a session between an LU and an TMS:Engine application *applid* that is not active.

### **System action**

The command fails.

### **User response**

Validate the *applid* parameter and re-enter the command. If you receive the same message, the application in question is not active. You can activate it using the OPEN command.

### **Message Type**

ERROR

## **KL VOP102: SESSION STARTED: LU(*luname*) APPL(*appl*)**

### **Explanation**

The LOGON command successfully started a session between application *appl* and LU *luname*.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KL VOP103: UNABLE TO START SESSION: LU(*luname*) APPL (*appl*) SENSE(*sense*)**

### **Explanation**

The LOGON command to start a session between application *appl* and LU *luname* failed.

**System action**

The command fails.

**User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause for the error and take appropriate corrective action. The SENSE field format is explained in [“TMS:Engine codes” on page 2386](#).

**Message Type**

ERROR

**KLVO111: TMS:Engine TIME: *time*****Explanation**

The TIME command causes the TMS:Engine *time* to be displayed.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVO112: TMS:Engine TIME RESET TO: *time* DATE: *date*****Explanation**

The TIME RESET command has set the TMS:Engine time and date to the system local date and time.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVO121: INTERNAL TRACE STATUS: ERROR : *arg* DISPATCH: *arg* STORAGE :  
*arg* VTAM® : *arg* LOGIRECS: *arg* VSAM : *arg* PSM: *arg*****Explanation**

The TRACE command displays the current trace table eligibility mask. *arg* is ENABLED OR DISABLED.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

## **KL VOP122: INVALID TRACE ID: *arg***

### **Explanation**

The TRACE command contains an invalid parameter *arg*.

### **System action**

The command fails.

### **User response**

Validate and correct the trace ID *arg*, and reissue the command.

### **Message Type**

ERROR

## **KL VOP123: INVALID PREFIX CHARACTER: *arg***

### **Explanation**

The TRACE command contains an invalid prefix character *arg* as one of the parameters.

### **System action**

The command fails.

### **User response**

Correct the invalid prefix character (it must be (+) or (-)) and reissue the command.

### **Message Type**

ERROR

## **KL VOP124: INTERNAL TRACE FACILITY DISABLED**

### **Explanation**

The TRACE command failed because the internal trace facility has been disabled.

### **System action**

The command fails.

### **Message Type**

ERROR

## **KL VOP125: TRACE REQUEST REJECTED. REQUIRED ARGUMENT MISSING**

### **Explanation**

The GTRACE command was entered with the ON|OFF operand without specifying a resource to be traced.

### **System action**

The trace request is rejected.

### **User response**

Specify the resource to be traced and reissue the command.

### **Message Type**

ERROR

## **KL VOP126: TRACE REQUEST REJECTED. INVALID CLASS(TERM|ACB) SPECIFIED**

### **Explanation**

An invalid CLASS was specified.

### **System action**

The trace request is rejected.

### **User response**

Specify a correct CLASS and reissue the command.

### **Message Type**

ERROR

## **KL VOP127: TRACE REQUEST REJECTED. INTERNAL TRACE FACILITY DISABLED.**

### **Explanation**

A GTRACE CLASS(INT) ON command has been issued but no internal trace table has been allocated at system startup.

### **System action**

The trace request is rejected.

### **User response**

If an internal trace is desired, specify DEBUG(Y) in the KLVSYSIN member of RKANPAR and recycle the system.

### **Message Type**

ERROR

## **KL VOP128: TRACE TERM|ACB(*resname*) QUEUED|ENABLED|DISABLED**

### **Explanation**

The trace request for *resname* of TERM or ACB has been performed.

### **System action**

None.

### **User response**

None.

### **Message Type**

ERROR

## **KL VOP129: TRACE REQUEST REJECTED. TERM(*resname*) NOT A PHYSICAL TERMINAL.**

### **Explanation**

The trace for *resname* of CLASS(TERM) has been requested, but the *resname* is not a physical terminal.

### **System action**

The trace request is rejected.

**User response**

Specify CLASS(ACB), or use the VSSTRACE command to trace virtual sessions.

**Message Type**

ERROR

**KLTOP130: GTF INTERFACE HAS NOT BEEN ENABLED****Explanation**

A trace request has been issued for a resource but the GTF interface has not been enabled.

**System action**

None.

**User response**

Issue the GTF ON command to enable GTF tracing.

**Message Type**

WARNING

**KLTOP131: TRACE CLASS(INT|TERM|ACB|DLG) STATUS:****Explanation**

This is the header message of the trace status display.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLTOP132: TRACE REQUEST REJECTED. INVALID ARGUMENT SPECIFIED.****Explanation**

A GTRACE command is specified with an invalid resname.

**System action**

The trace request is rejected.

**User response**

Correct and reissue the command.

**Message Type**

ERROR

**KLVP141: MONITOR MASK FOR *operator*: LOG : *mask* REPLY: *mask* ERROR:  
*mask* INFO : *mask* WARN : *mask* ALERT: *mask* VIEW: *mask* USER: *mask***

**Explanation**

The MONITOR command displays the current monitor mask. The mask parameter indicates if the message type is enabled (YES) or disabled (NO) for this operator. Refer to [“TMS:Engine codes” on page 2386](#) for more information on message types.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVP142: INVALID MESSAGE TYPE: *type***

**Explanation**

An invalid message type *type* was specified as one of the parameters of the MONITOR command.

**System action**

The command fails.

**User response**

Refer to the [“TMS:Engine codes” on page 2386](#) for more information on message types.

**Message Type**

ERROR

**KLVP143: INVALID PREFIX CHARACTER: *prefix***

**Explanation**

An invalid message type prefix *prefix* was specified as one of the parameters of the TMS:Engine MONITOR command.

**System action**

The command fails.

**User response**

Correct the invalid message type prefix (it must be (+) or (-)) and reissue the command.

**Message Type**

ERROR

**KLVP152: MODULE NOT FOUND: *module***

**Explanation**

The entry name *module* specified in the LINK command could not be found in the TMS:Engine load library. This message is accompanied by message KLVC003, which indicates a more specific reason why the module could not be found.

**System action**

The command fails.

**User response**

Determine if the entry name *module* is a valid member name or alias in the TMS:Engine load library.

**Message Type**

ERROR

**KLVO161: CLOSE IN PROGRESS: APPLID(*applid*)****Explanation**

The CLOSE command terminates application *applid*.

**System action**

Termination is proceeding for the application.

**User response**

None.

**Message Type**

REPLY

**KLVO162: APPLICATION NOT OPEN: APPLID(*applid*)****Explanation**

Application *applid* specified in the TMS:Engine CLOSE command is not open.

**System action**

The command fails.

**User response**

Re-enter the command with the correct applid.

**Message Type**

ERROR

**KLVO164: CRITICAL APPLICATION CANNOT BE CLOSED: APPLID(*applid*)****Explanation**

Application *applid* specified in the CLOSE command is not eligible to be terminated because it was opened with the critical attribute.

**System action**

The CLOSE command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

## **KL VOP165: CLOSE COMPLETE: APPLID(*applid*)**

### **Explanation**

The CLOSE command was issued against *applid* and completed successfully.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KL VOP182: EMULATION SESSION NOT AVAILABLE: STATUS(*sense*)**

### **Explanation**

A virtual session specified in the EMLU3767 command was not available to service the request.

### **System action**

The command fails.

### **User response**

Refer to [“TMS:Engine codes” on page 2386](#) for the format of the STATUS (*sense*) field to determine the correct action to take. Look for other error messages referring to the virtual pool associated with this request.

### **Message Type**

ERROR

## **KL VOP183: EMULATION SESSION STARTED**

### **Explanation**

The emulation session specified in the EMLU3767 command was started successfully.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KL VOP184: INVALID SEND STATUS: R1(hex)**

### **Explanation**

TMS:Engine returned an invalid send status for the EMLU3767 command.

### **System action**

None.

**User response**

Use *IBM® z/OS® Communications Server SNA Programming* and the R1 field to determine the cause of the error and take appropriate corrective action. The format of the R1 field is explained in [“TMS:Engine codes” on page 2386](#).

**Message Type**

ERROR

**KLVO185: EMULATION SESSION ENDED****Explanation**

The emulation session started via the EMLU3767 command has ended.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVO186: UNABLE TO ACQUIRE VIRTUAL SESSION WITH *applid*  
SENSE(*sense*)****Explanation**

The virtual session with *applid* specified by the EMLU3767 command could not be established.

**System action**

None.

**User response**

The format of the SENSE field is explained in [“TMS:Engine codes” on page 2386](#), which explains the cause of the error.

**Message Type**

ERROR

**KLVO191: REPLY FROM *operator*: COMMAND(*command*)****Explanation**

Operator *operator* issued command *command*. This message is issued to create an audit trail.

**System action**

None.

**User response**

None.

**Message Type**

LOG

## **KLVP191\_d: INVALID CLASS NAME: *class***

### **Explanation**

An AUTOPURG command has been issued from an operator session that specifies an invalid CLASS= operand.

### **System action**

The AUTOPURG command is not executed.

### **User response**

Correct the CLASS=values specified on the AUTOPURG command and attempt the command again.

### **Message Type**

ERROR

## **KLVP192: \*\*\* AUTOPURGE CANDIDATE LIST \*\*\* *restype.resname*: USE(*use*), RES(*resaddr*) OWNER(*restype.resname*) *nnn* RESOURCES SCHEDULED FOR AUTOPURGE**

### **Explanation**

AUTOPURG has displayed the candidate list for resources to be AUTOPURGED. The *restype* and *resname* fields show the class and name of the resource to be AUTOPURGED and also of the OWNER of the resource, if one exists. The *use* field shows the current use count for the resource. One line of resource data will appear for each resource which matches the AUTOPURG criteria. The *nnn* field of the last line of the message displays the total number of resources that meet the AUTOPURG criteria.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVP193: \*\*\* AUTOPURGED RESOURCES \*\*\* *restype.resname*: USE(*use*), RES(*resaddr*) OWNER(*restype.resname*) *xxx* OF *yyy* RESOURCES REQUIRED AUTOPURGE**

### **Explanation**

AUTOPURG has displayed the resources that actually were AUTOPURGED. The *restype* and *resname* fields show the class and name of the AUTOPURGED resource and also of the OWNER, if one exists. The *use* field shows the current use count for the resource. Resources are not actually terminated until the use count goes to zero. An AUTOPURG must be done for each resource until the use count goes to zero to purge the resource. The last line of the display shows the number of resources that were scheduled (*xxx* field) and the number that actually had their use count decremented (*yyy* field).

### **System action**

None.

### **User response**

If the USE count is still positive, another AUTOPURG command should be issued to purge the resource.

**Message Type**

ALERT

**KLVO194: RESOURCE NAME IS REQUIRED****Explanation**

The AUTOPURGE command requires a resource name as part of the AUTOPURGE criteria.

**System action**

The AUTOPURGE command is not executed.

**User response**

To determine the resource name of the resource to AUTOPURGE, the DISPLAY operator command can be used to show resources that are currently in PURGE status and therefore available for AUTOPURGE.

**Message Type**

ERROR

**KLVO195: *restype.resname1* OWNS *restype.resname2*, NOT PURGEABLE****Explanation**

The AUTOPURGE command has detected that resource named by *resname1* owns the resource named by *resname2*. This resource will not be AUTOPURGED until all resources owned by it have been terminated.

**System action**

An AUTOPURGE is not executed for that resource.

**User response**

All resources owned by the resource named by *resname1* must be AUTOPURGED first.

**Message Type**

ERROR, ALERT

**KLVO201: ANYAPPL SPECIFIED IN A NON DEDICATE POOL IGNORED****Explanation**

The parameter ANYAPPL can be specified only on a DEDICATE pool.

**System action**

TMS:Engine ignores the ANYAPPL parameter.

**User response**

Correct VSM definitions. Review your configuration and call IBM® Software Support if the problem persists.

**Message Type**

REPLY

**KLVO202: INVALID SUBCOMMAND: *subcmd*****Explanation**

Subcommand *subcmd* specified in the VSM command is not supported.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KL VOP203: UNABLE TO ALLOCATE VSM ACB: ACBNAME(*applid*) PSWD *pswd*****Explanation**

An attempt to allocate and initialize a VTAM® ACB failed.

**System action**

Application *applid* is unavailable.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KL VOP204: APPLICATION *acbname* ALREADY DEFINED TO *pool*****Explanation**

Application *acbname* specified in the VSM command has already been defined to *pool*. Do not define an application more than once to the same pool.

**System action**

The command fails.

**User response**

Reissue the command correctly.

**Message Type**

ERROR

**KL VOP205: INCONSISTENT SPECIFICATION: NETNAME(*netname*)  
ACBNAME(*acbname*) THROUGH(*thru*)****Explanation**

An inconsistency was detected between the *netname* and *thru*, or between the *acbname* and *thru* specified in the VSM command.

**System action**

The command fails.

**User response**

Correct the error and reissue the command.

**Message Type**

ERROR

**KLVOP207: UNABLE TO OPEN VSM ACB: ACBNAME(*acbname*) NETNAME (*netname*) ARG(*arg*)****Explanation**

The TMS:Engine VSM command was issued but one of the following occurred:

1. A VTAM® (OPEN) failed and a KLVVT001 error message indicating the cause of the error is written to RKLVLLOG.
2. The resource could not be defined.
3. The pre-open exit routine specified when the application was opened did not complete successfully.

**System action**

If the THROUGH parameter was specified, an attempt is made to start the other virtual applications. In any case, the virtual application indicated is unavailable.

**User response**

Depends on the reason for the error.

1. Use the TMS:Engine log and *IBM® z/OS® Communications Server SNA Programming* to determine the cause for the OPEN failure and take appropriate corrective action.
2. Contact IBM® Software Support for possible reasons why the resource could not be defined.
3. Contact IBM® Software Support to determine why the pre-open routine exit did not complete successfully.

**Message Type**

ERROR.

**KLVOP208: DEDICATE ATTRIBUTE SPECIFIED, LIMIT=l IGNORED****Explanation**

The parameter LIMIT=l is specified on a VSM pool which also specified DEDICATE. DEDICATE implies a limit of l.

**System action**

TMS:Engine ignores the LIMIT=l parameter.

**User response**

Remove either the LIMIT=l or the DEDICATE parameter to suppress this message.

**Message Type**

REPLY

**KLVOP209: SESSLIM SPECIFIED IN A NON DEDICATE POOL IGNORED****Explanation**

The parameter SESSLIM can be specified only on a DEDICATE pool.

**System action**

TMS:Engine ignores the SESSLIM parameter.

**User response**

Correct VSM definitions. Review your configuration and call IBM® Software Support if the problem persists.

**Message Type**

REPLY

**KLVOP210: NOCAPPL SPECIFIED IN A NON DEDICATE POOL IGNORED****Explanation**

The parameter NOCAPPL can be specified only on a DEDICATE pool.

**System action**

TMS:Engine ignores the NOCAPPL parameter.

**User response**

Correct VSM definitions. Review your configuration and call IBM® Software Support if the problem persists.

**Message Type**

REPLY

**KLVOP211: MODULE LIMIT: *cmmax* MODULE USAGE: *cmcur* PANEL LIMIT: *dmmax* PANEL USAGE: *dmcure* THREADS: *stthr*****Explanation**

The STATUS command was issued. The following information is displayed:

- *cmmax*: The maximum number of bytes of storage TMS:Engine will use when loading modules. Zero means no limit.
- *cmcur*: The current number of bytes of storage TMS:Engine has used to load modules.
- *dmmax*: The maximum number of bytes of storage dialog management may use to store panels. Zero means no limit.
- *dmmure*: The current number of bytes the dialog manager is using to store panels.
- *stthr*: The current number of active threads.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVOP212: { PLU *nnnnnnnn* APPL *applid* POOL *poolname* CID *sccid* *nnnn*  
 SLU(S) *nnnn* ACTIVE SESSION(S) SLU *nnnnnnnn* LU *luname* POOL *poolname* CID  
*sccid* *nnnn* POOL ASSOCIATION(S) \*\*\* END OF DISPLAY *nnnnnnnn* \*\*\* }**

**Explanation**

This is the response to a VSM DISPLAY command.

**System action**

Processing continues.

**User response**

None.

**Note:** The SLU *nnnnnnnn* version is not currently produced.

**Message Type**

ERROR

**KL VOP212\_d: NODENAME *nnnnnnnn* NOT FOUND****Explanation**

A VSM DISPLAY command was issued for *nnnnnnnn* but the resource was not found.

**System action**

The command is ignored and processing continues.

**User response**

Correct the resource name and re-enter the command if necessary.

**KL VOP213: { VIRTUAL SESSION POOL *nnnnnnnnnn* [,PASS] [,PARALLEL] [,DEDICATED] [,NOCAPPL] [,SESSLIM] TIMEOUT: *tttttttt* LOGMODE: *llllllll* NODE: *nnnnnnnnnn* LU *lname* CID *sccid* [ASSOC *assocname*] APPLICATION *applid* HAS *nnnn* ACTIVE SESSION(S) DEFERRED APPLICATION *applid poolname* STATISTICS: ACTIVE(*nnnn*) AVAIL(*nnnn*)OPEN(*nnnn*) DEFER(*nnnn*) LIMIT(*nnnn*) \*\*\* *nnnn* SESSION(S) IN *nnnn* POOL(S) \*\*\* }**

**Explanation**

This message is the response to a VSM LIST command.

**System action**

Processing continues.

**User response**

None.

**KL VOP251: *cccccccccccccccccccc*****Explanation**

The response *cccccccccccccccccccc* was returned from CP in response to a CP command. If multiple response lines were returned, this message will appear multiple times.

**System action**

Processing continues.

**User response**

None.

## **KL VOP253: CP COMMAND DID NOT COMPLETE, DIAG CONDITION CODE (1)**

### **Explanation**

A CP command was processed but the response from CP will not fit in the response buffer. This is a should-not-occur problem.

### **System action**

Processing continues.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KL VOP254: CP COMMAND BUFFER IS GREATER THAN 240 BYTE MAXIMUM**

### **Explanation**

A CP command was entered but it exceeds the maximum length of 240 bytes.

### **System action**

The command is ignored and processing continues.

### **User response**

Try to reduce the length of the command and re-enter if required.

### **Message Type**

ERROR

## **KL VOP290: VIRTUAL SESSION POOL *pool* NOT DEFINED**

### **Explanation**

Pool *pool* specified in the VSM command could not be defined.

### **System action**

The pool specified is unavailable.

### **User response**

This message is accompanied by a more specific message indicating why the pool could not be defined. Refer to that messages to determine the cause of the error.

### **Message Type**

ERROR

## **KL VOP291: VIRTUAL SESSION POOL *pool* DELETED**

### **Explanation**

Termination of the virtual session POOL *pool*, previously created via the VSM command, was requested and the virtual session POOL *pool* was deleted.

### **System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVOP302: VIEWLOG CLUSTER NOT AVAILABLE****Explanation**

The VIEWLOG cluster specified in the VIEWLOG command is not available.

**System action**

The command fails.

**User response**

Look for other messages, KLVVL002 or KLVVL008, to determine a more specific reason why the cluster is not available, and take corrective action.

**Message Type**

ERROR

**KLVOP303: VIEWLOG CLUSTER NOT ACCESSIBLE****Explanation**

The VIEWLOG cluster specified in the VIEWLOG command could not be accessed.

**System action**

The command fails.

**User response**

Examine the log for other error messages concerning the VIEWLOG cluster and take corrective action.

**Message Type**

ERROR

**KLVOP304: DATE FIELD INVALID: DATE(*date*)****Explanation**

The date field *date* specified in the VIEWLOG FDATE command is invalid.

**System action**

The command fails.

**User response**

Specify the date as mm/dd/yy.

**Message Type**

ERROR

## **KLVOP312: AS COMMAND MAY NOT BE DIRECTED TO *operator***

### **Explanation**

The AS command cannot be directed to operator *operator*.

### **System action**

The command fails.

### **User response**

Validate the operator parameter and reissue the command.

### **Message Type**

ERROR

## **KLVOP314: COMMAND ISSUED**

### **Explanation**

The AS command was issued.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVOP315: OPERATOR *operator* NOT LOGGED ON**

### **Explanation**

The AS command was issued but the operator *operator* was not logged on.

### **System action**

The command fails.

### **User response**

If operator is \*SYSVLG\* check RKLVLLOG for messages to determine why \*SYSVLG\* was logged off. The VIEWLOG data set may be full. For all other operators, verify that you are using the correct ID and reissue the command.

### **Message Type**

ERROR

## **KLVOP402: UNABLE TO ALLOCATE JES SPOOL FILE: REASON(*rsn*)**

### **Explanation**

The BATCH command did not complete because TMS:Engine was unable to allocate the JES spool file required for the output of the command.

### **System action**

The command fails.

**User response**

The reason field contains the return code from SVC 99 services. This message will be accompanied by message KLVDA002. Refer to that message to determine the corrective action to be taken.

**Message Type**

ERROR

**KLVOP403: UNABLE TO OPEN JES SPOOL FILE****Explanation**

The BATCH command did not complete because the JES spool file could not be opened.

**System action**

The command fails.

**User response**

This message is accompanied by message KLVVS001, which contains a more specific reason why the file could not be opened. Refer to that message to determine the corrective action to be taken.

**Message Type**

ERROR

**KLVOP404: UNABLE TO ALLOCATE DATA SET: DSNAME(*dsname*) REASON(*rsn*)****Explanation**

The BATCH command did not complete because the data set containing the batch commands could not be allocated.

**System action**

The command fails.

**User response**

The reason field contains the return code from SVC 99 services. This message will be accompanied by message KLVDA002. Refer to that message to determine the corrective action to be taken.

**Message Type**

ERROR

**KLVOP405: UNABLE TO OPEN DATA SET: DSNAME(*dsname*)****Explanation**

The BATCH command did not complete because the data set containing the batch commands could not be opened.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

## **KL VOP406: UNABLE TO LOGON BATCH OPERATOR**

### **Explanation**

The BATCH command did not complete because the operator (\*SUBMIT\*) could not be logged on.

### **System action**

The command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KL VOP411: DIALOG TRACE STATUS({ON | OFF}) TRACEABLE COMPILATION MODE({ON | OFF})**

### **Explanation**

Dialog trace is **ON** so that tracing of dialogs will occur, or it is **OFF** so that tracing of dialogs will not occur. Traceable compilation mode is **ON** so that compilation creates an object module that is traceable, or it is **OFF** so that compilation creates an object module that is not traceable.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KL VOP412: DIALOG TRACE ALLOCATED STORAGE *nnnn* KB**

### **Explanation**

The amount of storage used by the dialog trace facility for the retention of source statements and control blocks is displayed.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVP413: {*luname* | NTD} {ENABLED | DISABLED} TBLSZ *nnnn* ENTRIES [SUSPENDED]**

### **Explanation**

The specified LU or a nonterminal dialog (NTD) was ENABLED or DISABLED. If interactive tracing capabilities were granted, user trace table size, *nnnn*, is displayed. For interactive users, suspension of output to the table destination may be indicated with SUSPENDED.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVP414: {*luname* | NTD} MEMBER(*memname*) RANGE(*start-end*) DEST({BP | GTF | TABLE})**

### **Explanation**

A range of statements, *start* through *end*, will be traced from source member *memname* for dialogs (which copy the member and have been compiled for trace) executing at either the specified LU or as nonterminal dialogs. The dialog manager generates trace output to BP, GTF or TABLE.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVP415: {*luname* | NTD} FLOWON DEST([BP] [GTF] [TABLE])**

### **Explanation**

FLOW tracing is active for the specified LU or for a nonterminal dialog (NTD). The dialog manager generates trace output to BP, GTF, or TABLE.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KL VOP416: DIALOG TRACE IS {OFF | ON}**

### **Explanation**

This message indicates the status of the dialog trace facility.

### **System action**

If trace was turned **ON**, the DTRACE command can be used to enable terminals or nonterminal dialogs and to add and delete ranges. Commands specifying users, dialogs, and ranges to be traced are rejected if tracing was turned **OFF**. When trace is turned **ON**, all enabled LUs and nonterminal dialog resources can generate trace output.

### **User response**

None.

### **Message Type**

INFO

## **KL VOP417: DESTINATIONS BP AND TABLE INVALID FOR NONTERMINAL DIALOGS AND NON-INTERACTIVE USERS**

### **Explanation**

A command specifying the BP or TABLE destination was issued for a noninteractive user or for nonterminal dialogs. These output destinations are valid only for interactive users enabled by LU name.

### **System action**

The command completes unsuccessfully.

### **User response**

Reissue the command using a different destination or enable the terminal for interactive tracing.

### **Message Type**

INFO

## **KL VOP418: {*luname* | NTD} ENABLED FOR DIALOG TRACE, TBLSZ(*nnnn*)**

### **Explanation**

The specified LU or a nonterminal dialog was enabled for tracing of dialogs. When a terminal identified by *luname* is granted interactive capabilities, user trace table size, *nnnn*, is displayed.

### **System action**

Commands affecting the enabled LU or nonterminal dialogs are accepted.

### **User response**

None.

### **Message Type**

INFO

## **KLVP419: {*luname* | NTD} DISABLED FOR DIALOG TRACE, ENVIRONMENT {RETAINED | DELETED}**

### **Explanation**

Tracing for the specified LU or the nonterminal dialogs was disabled. The trace environment is deleted or retained.

### **System action**

When the trace environment is deleted, all dialogs and ranges that were declared traceable for the user are no longer traceable, even after the user is re-enabled.

### **User response**

None

### **Message Type**

INFO

## **KLVP420: RANGE(*start-end*) ADDED FOR *luname*: MEMBER(*memname*) DEST({BP | GTF | TABLE})**

### **Explanation**

A range of statements, *start* through *end*, was added for the specified LU, specified member and specified destination, or for the nonterminal dialogs (NTD).

### **System action**

When statements within the range for member are executed, trace output can be directed to a trace output destination: BP, GTF, or TABLE.

### **User response**

None

### **Message Type**

REPLY

## **KLVP421: RANGE ({*start-end* | ALL}) DELETED FOR {*luname* | NTD}: MEMBER(*memname*) DEST({BP | GTF | TABLE | ALL})**

### **Explanation**

A range of statements, *start* through *end*, has been deleted for the specified LU or nonterminal dialogs (NTD), specified or all members, and specified or all destinations.

### **System action**

The specified range that was deleted for the specified member, destination, and LU or NTD will no longer be traced.

### **User response**

None

### **Message Type**

REPLY

## **KL VOP422: TRACEABLE COMPILATION MODE IS {ON | OFF}**

### **Explanation**

This message indicates the status of traceable compilation mode.

### **System action**

Output from automatic compilation and the REFRESH command using parameter defaults is a traceable dialog if the mode is **ON**; it is nontraceable if the mode is **OFF**.

### **User response**

None

### **Message Type**

INFO

## **KL VOP423: COMMAND INVALID WHILE DIALOG TRACE IS OFF**

### **Explanation**

A command was issued that requires that the dialog trace facility be activated.

### **System action**

The command completes unsuccessfully.

### **User response**

Turn on DTF and reissue the command.

### **Message Type**

ERROR

## **KL VOP424: {*luname* | NTD} NOT ENABLED FOR TRACING**

### **Explanation**

An attempt was made to disable an LU or nonterminal dialogs (NTD), but the command completed unsuccessfully because the LU or NTD was not enabled for tracing.

### **System action**

The command completes unsuccessfully.

### **User response**

Correct the LU name and reissue the command.

### **Message Type**

ERROR

## **KL VOP427: FLOW TRACE STATUS UNCHANGED**

### **Explanation**

A command was issued to change the state of the flow trace to the state that already exists.

### **System action**

The command completes unsuccessfully.

**User response**

Reissue the command to set the flow trace to the desired state, or do nothing if the desired state is the current one.

**Message Type**

ERROR

**KL VOP428: *keyword=value* INVALID****Explanation**

A command containing an invalid parameter *keyword* was issued.

**System action**

The command completes unsuccessfully.

**User response**

Consult the command documentation, and then reissue the command.

**Message Type**

ERROR

**KL VOP430: {*luname* | NTD} ALREADY ENABLED FOR DIALOG TRACING****Explanation**

An attempt was made to enable an LU or nonterminal dialog (NTD), but the LU or NTD was already enabled for tracing.

**System action**

The command completes unsuccessfully.

**User response**

Correct the LU name or disable the LU or nonterminal dialogs, and reissue the command.

**Message Type**

ERROR

**KL VOP431: STORAGE ISOLATION POOL NOT INITIALIZED****Explanation**

A storage isolation pool could not be initialized during DTF initialization.

**System action**

The dialog trace facility (DTF) is not on.

**User response**

Use the STORAGE command to display storage utilization. Adjust storage allocation parameters and recycle TMS:Engine if storage was underallocated. Otherwise, contact IBM® Software Support.

**Message Type**

ERROR

## **KL VOP432: DIALOG TRACE HANDLE POOL NOT INITIALIZED**

### **Explanation**

An attempt was made to turn on the dialog trace facility (DTF), but a handle pool could not be initialized.

### **System action**

The dialog trace facility (DTF) is not turned on.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KL VOP433: TRACE ENVIRONMENT INTEGRITY ERROR**

### **Explanation**

Data structures used for representation of dialog trace information are corrupted.

### **System action**

The dialog trace facility (DTF) is turned off and cannot be restarted.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KL VOP434: LUNAME= AND NTD= PARAMETER CONFLICT**

### **Explanation**

The LUNAME and NTD keyword parameters are mutually exclusive.

### **System action**

The command completes unsuccessfully.

### **User response**

Reissue the command with either the LUNAME or NTD keyword parameter.

### **Message Type**

ERROR

## **KL VOP443: {*luname* | NTD} FLOWOFF DEST({BP | GTF | TABLE})**

### **Explanation**

Flow trace has been turned off for the specified LU or nonterminal dialogs (NTD) and for the specified destinations.

### **System action**

Transfers of control between dialogs for NTD or luname will no longer be traced.

**User response**

None.

**Message Type**

INFO

**KLVO444: DIALOG TRACE IS ALREADY ON****Explanation**

KLVS\$TEM1 returned an unanticipated return code.

**System action**

The command completes unsuccessfully.

**User response**

None.

**Message Type**

ERROR

**KLVO445: INVALID RETURN CODE *nn* PASSED FROM KLVS\$TEM****Explanation**

In attempt was made to activate DTF, but it was already activated.

**System action**

The command completes unsuccessfully.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVO447: RANGE (*start-end*) FOR {*luname* | NTD} MEMBER(*memname*)  
DEST({BP | GTF | TABLE}) ALREADY EXISTS****Explanation**

An attempt was made to add a specified range that already exists.

**System action**

The command completes unsuccessfully.

**User response**

None.

**Message Type**

ERROR

## **KL VOP448: LU *luname* NOT ENABLED FOR INTERACTIVE TRACING**

### **Explanation**

An attempt was made to suspend tracing for luname or an NTD that was not enabled for interactive tracing.

### **System action**

The command completes unsuccessfully.

### **User response**

None.

### **Message Type**

ERROR

## **KL VOP450: *pppppppp*, A REQUIRED PARAMETER, IS MISSING**

### **Explanation**

A command was issued without a required parameter.

### **System action**

The command completes unsuccessfully.

### **User response**

Reissue the command with required parameter.

### **Message Type**

ERROR

## **KL VOP451: LUNAME= OR NTD=YES IS REQUIRED**

### **Explanation**

A command was issued that requires the LUNAME or NTD keyword parameter.

### **System action**

The command completes unsuccessfully.

### **User response**

Reissue the command for a specified LU or NTD.

### **Message Type**

ERROR

## **KL VOP452: TBLSZ= IGNORED FOR REENABLE**

### **Explanation**

A nonzero trace table size was specified for a disabled, interactive trace user with a retained trace environment. The trace table size cannot be changed when the user is re-enabled.

### **System action**

The command completes successfully, but the newly-specified trace table size is ignored.

**User response**

If a new trace table size is desired, disable the user with the KEEP=NO option to delete the user's trace environment. Then re-enable the user with a new trace table size.

**Message Type**

INFO

**KLVO453: DISABLE FAILED FOR NON-UNIQUE LU, *luname*****Explanation**

An attempt was made to disable tracing for *luname*, but the name is not unique to the system.

**System action**

The command completes unsuccessfully.

**User response**

Rename *luname* so that it is unique to the system.

**Message Type**

ERROR

**KLVO501: COMMAND ISSUED AS CN *cnid*:RC (*rc*)****Explanation**

An z/OS® command was issued as console operator *cnid*. The SVC 34 used to submit the command to the operating system received the return code *rc*.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVO502: TMS/Engine JOBSTEP NOT AUTHORIZED, COMMAND REJECTED****Explanation**

TMS:Engine is not running from an APF-authorized library and is not able to issue the requested z/OS® command.

**System action**

The command fails.

**User response**

Run TMS:Engine from an authorized library.

**Message Type**

REPLY

## **KL VOP503: NO TEXT PASSED TO THE MVS™ COMMAND**

### **Explanation**

An TMS:Engine z/OS® command was issued with no argument.

### **System action**

The z/OS® command is ignored.

### **User response**

Reissue the command with an argument.

### **Message Type**

REPLY

## **KL VOP504: TEXT PASSED TO THE MVS™ COMMAND GREATER THAN 126 CHARACTERS, COMMAND REJECTED**

### **Explanation**

The TMS:Engine operator command z/OS® was issued with an argument that was too long.

### **System action**

The z/OS® command is ignored.

### **User response**

Reissue the command with a shorter argument.

### **Message Type**

REPLY

## **KL VOP552: UNABLE TO ALLOCATE FORWARD ACB: APPLID(*appl*)**

### **Explanation**

TMS:Engine was unable to allocate *appl* specified in the FORWARD command.

### **System action**

The command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

REPLY

## **KL VOP553: UNABLE TO OPEN FORWARD ACB: APPLID(*appl*) REASON(*rc*)**

### **Explanation**

TMS:Engine was unable to OPEN the *appl* specified in the FORWARD command.

### **System action**

The command fails.

**User response**

The REASON field contains the return code from the z/OS® Communications Server OPEN macro instruction. Refer to *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error.

**Message Type**

REPLY

**KLVP554: FORWARD TO *appldest* FROM *appl1* STARTED****Explanation**

Application *appl1* will be FORWARDED to *appldest* as specified in the FORWARD command.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVP555: FORWARD TO *appldest* FROM *appl1* STOPPED****Explanation**

The forwarding of application *appl1* was successfully stopped by the FORWARD command.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVP601: VPO FACILITY NOT AVAILABLE****Explanation**

The VPO facility required for the VPO command is not active.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

## **KLVP651: UNABLE TO ALLOCATE DIALOG ACB: APPLID(*appl*)**

### **Explanation**

TMS:Engine was unable to allocate the appl specified in the DIALOG command.

### **System action**

The command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KLVP652: UNABLE TO OPEN DIALOG ACB: APPLID(*appl*) REASON(*rc*)**

### **Explanation**

TMS:Engine was unable to OPEN the *appl* specified in the DIALOG command.

### **System action**

The command fails.

### **User response**

The REASON field contains the return code from the z/OS® Communications Server OPEN macro instruction. Refer to *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error.

### **Message Type**

ERROR

## **KLVP653: DIALOG APPLICATION *aoöl* STARTED: DIALOG(*dialog*) LANGUAGE(*language*)**

### **Explanation**

Application *appl* with controlling dialog *dialog* was successfully started by the DIALOG command. *language* is the language code used to locate the dialog.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY, INFO

## **KLVP654: DIALOG APPLICATION *appl* STOPPED: DIALOG(*dialog*) LANGUAGE(*language*)**

### **Explanation**

Application *appl* with controlling dialog *dialog* was successfully stopped by the CLOSE command. *language* is the language code used to locate the dialog.

**System action**

None.

**User response**

None.

**Message Type**

REPLY, INFO

**KL VOP655: LOGON DIALOG UNAVAILABLE: DIALOG(*dialog*)  
LANGUAGE(*language*)****Explanation**

A DIALOG command was issued specifying dialog as the logon dialog and a usable copy of the dialog could not be found in the DD pointed to by the language code, language. This error may be caused by misspelling the dialog name in the command or by syntax errors within the dialog itself. In the case of syntax errors within the dialog, there will be additional messages describing the errors that were detected.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KL VOP656: ATTENTION DIALOG UNAVAILABLE: DIALOG(*dialog*)  
LANGUAGE(*language*)****Explanation**

A DIALOG command was issued specifying dialog as the Window Control dialog and a usable copy of the dialog could not be found in the DD pointed to by the language code, language. This error may be caused by misspelling the dialog name in the command or by syntax errors within the dialog itself. In the case of syntax errors within the dialog, there will be additional messages describing the errors that were detected.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KL VOP657: ATTENTION DIALOG AND NOPSM CONFLICT: DIALOG APPLICATION  
*appl*****Explanation**

A DIALOG command was issued specifying mutually exclusive parameters.

**System action**

The command fails.

**User response**

Correct and reissue the command.

**Message Type**

ERROR

**KL VOP658: UNABLE TO INITIALIZE DIALOG MANAGER: LU(*lu*) APPLID(*appl*)****Explanation**

The named *lu* was attempting to log onto the named DIALOG application and an error was detected while starting execution of the logon dialog associated with the application.

**System action**

The named *lu* is disconnected from the application.

**User response**

Check the TMS:Engine log for associated error messages.

**Message Type**

VIEW

**KL VOP802: UNABLE TO ALLOCATE DATA SET: DSNAME(*dsname*) REASON(*rsn*)****Explanation**

The PRINT command completed unsuccessfully because *dsname* could not be allocated.

**System action**

The command fails.

**User response**

The REASON field refers to the return code from SVC 99 services. This message is accompanied by message KL VDA002, which contains a more detailed explanation why the data set could not be allocated. Refer to that message for more information.

**Message Type**

ERROR

**KL VOP803: UNABLE TO OPEN DATA SET: DSNAME(*dsname*)****Explanation**

The PRINT command completed unsuccessfully because *dsname* could not be opened.

**System action**

The command fails.

**User response**

None.

**Message Type**

ERROR

**KL VOP804: DATA SET PRINT COMPLETE: DSNAME(*dsname*)****Explanation**

The PRINT command was issued and completed successfully.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP805: PRINTER SESSION INACTIVE: PRINTER(*printer*)****Explanation**

The PRINT command completed unsuccessfully because the session associated with printer *printer* could not be found.

**System action**

The command fails.

**User response**

The session between the specified printer and TMS:Engine must be active when the command is issued. Currently a LOGON command must be issued to log the printer onto the TMS:Engine operator ACB.

**Message Type**

ERROR

**KL VOP809: PRINT REQUEST ACCEPTED****Explanation**

The PRINT command completed successfully.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP850: DUPLICATE NODE-ID: *nnnnnnnn ddname(memname)*****Explanation**

The node *nnnnnnnn* appears more than once in member *memname*.

**System action**

The NODE command is ignored.

**User response**

Edit the indicated member and correct the problem.

**Message Type**

ERROR

**KLKOP851: UNABLE TO INITIALIZE ACB FOR NODE *appl*****Explanation**

TMS:Engine was unable to allocate the *appl* specified in the NODE command.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLKOP852: DUPLICATE NETWORK-ID: *appl* RKANPAR (*config*)****Explanation**

A conflict was detected in configuration member *config* in RKANPAR specified in the NODE command.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLKOP853: UNABLE TO OPEN NODE ACB: APPLID(*appl*) REASON (*rc*)****Explanation**

The NODE command failed because TMS:Engine was unable to open the *appl* specified.

**System action**

The command fails.

**User response**

The REASON field contains the return code from the z/OS® Communications Server OPEN macro instruction. Refer to *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error.

**Message Type**

ERROR

## **KLVEV854: UNABLE TO LOAD NODE COMPONENT(S): APPLID(*appl*)**

### **Explanation**

TMS:Engine was unable to load the node components specified in the LOAD NODE command. Either KLVLUNDE, KLVEVNDE, or KLVICNDE could not be loaded.

### **System action**

The command fails.

### **User response**

Look for other messages in the KLVC*Mnn* format to determine which module could not be loaded and why.

### **Message Type**

ERROR

## **KLVEV855: NODE STARTED: APPLID(*appl*)**

### **Explanation**

Application *appl* was successfully started by the

### **Explanation**

NODE command.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY, INFO

## **KLVEV856: NODE STOPPED: APPLID(*appl*)**

### **Explanation**

NODE application *appl* was successfully stopped.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVP857: VALIDATION DIALOG UNAVAILABLE: DIALOG(*dialog*) LANGUAGE(*language*)**

### **Explanation**

A NOTE command was issued specifying dialog as the PANEL (validation) dialog and a usable copy of the dialog could not be found in the DD pointed to by the language code, language. This error may be caused by misspelling the dialog name in the command or by syntax errors within the dialog itself. In the case of syntax errors within the dialog, there will be additional messages describing the errors that were detected.

### **System action**

The command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KLVP901: NAM INACTIVE**

### **Explanation**

The NAM command failed because the NAM facility is inactive. Either no parameters were specified in the initialization library member KLVINNAM, the member could not be found, or the NAM facility was never correctly defined.

### **System action**

The command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KLVP902: NAM ? [CNTRLPT(*cntrlpt*)]**

### **Explanation**

The NAM command was issued and the NAM environment has been entered. This is a prompting message. *cntrlpt* indicates the control point for subsequent NAM commands.

### **System action**

None.

### **User response**

Enter NAM commands.

### **Message Type**

REPLY

## **KLVP903: COMMAND: *command***

### **Explanation**

The NAM command was issued and is returned to the operator.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP904: *subcmd* NOT RECOGNIZED****Explanation**

A NAM *subcmd* command was issued, but the requested service *subcmd* is not supported.

**System action**

The command terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KL VOP905: *varname*: text FOR USERID *xxxxxxxx*****Explanation**

The NAM SET command was issued, and the variable *varname* was successfully set to the value text for USERID *xxxxxxxx*.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KL VOP906: CNTRLPT *cpname* DATABASE IS *dbname*****Explanation**

The NAM CNTRLPT *cpname* command was issued, and the current control point database is *dbname*.

**System action**

None.

**User response**

Contact IBM® Software Support.

**Message Type**

REPLY

## **KL VOP908: DUPLICATE DECLARATION: *varname***

### **Explanation**

The NAM DECLARE command completed unsuccessfully because the variable *varname* has already been declared.

### **System action**

The command fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

REPLY

### **Message Type**

ERROR

## **KL VOP909: *varname* DECLARED: LENGTH(*n*)**

### **Explanation**

The NAM DECLARE command successfully defined variable *varname* with length *n*.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

### **Message Type**

ERROR

## **KL VOP910: ACCESS UPDATED|CREATED FOR USERID *userid***

### **Explanation**

The NAM SET userid [PASSWORD=*pswd*, CHANGE=*chg*] was issued to change or add a user control record for user *userid*.

### **System action**

None.

### **User response**

None.

### **Message Type**

ERROR

## **KLVP911: USER *userid* DELETED**

### **Explanation**

The NAM DELETE *userid* command was issued and all records for the specified user have been deleted.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVP912: USER *userid* NOT FOUND**

### **Explanation**

The NAM DELETE *userid* command was issued, but no records could be found for the specified *userid*.

### **System action**

The command is ignored.

### **User response**

Contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVP914: *varname* ERASED FOR USERID *userid***

### **Explanation**

A NAM SET command was issued for variable *varname* with no value to set the variable to. The command action is to erase the variable for USERID *userid*. The variable still exists on the NAM database but its value for the specified user is zero or NULL.

### **System action**

The next variable is processed.

### **User response**

None.

### **Message Type**

REPLY

## **KLVP915: VARIABLE *name* LENGTH *len***

### **Explanation**

The NAM VLIST command was issued, and the declared variables with the corresponding lengths are displayed.

### **System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVOP916: USER *userid* DEFINED *date time*****Explanation**

The NAM DISPLAY command displays the current user statistics.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVOP917: LAST ACCESS *date time*****Explanation**

The NAM DISPLAY command was issued. This message is only issued if database entry validation is used for the current control point.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVOP918: *varname: text*****Explanation**

The NAM DISPLAY command was issued and variables for the requested user ID are displayed.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

## **KLVOP919: NAM END**

### **Explanation**

The NAM END command was issued.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVOP920: VARIABLE *varname* IS UNDECLARED**

### **Explanation**

The NAM SET command was issued to set a variable *varname* for a particular user ID, but the variable was never declared.

### **System action**

The command fails.

### **User response**

Before a NAM SET command can be issued to manipulate a variable, the variable must be declared with the NAM DECLARE command.

### **Message Type**

REPLY

## **KLVOP921: INVALID VARIABLE REFERENCE: *varname***

### **Explanation**

The NAM SET command was issued, but the command failed because the variable *varname* is illegally referenced. Either the variable name was too long, or there is no colon (:) separating the variable name and the text.

### **System action**

Any remaining variables are processed.

### **User response**

Correct the error and reissue the command.

### **Message Type**

REPLY

## **KLVOP922: VARIABLE EXPRESSION TOO LONG FOR *varname: expr***

### **Explanation**

The NAM SET command was issued, but the command failed because the length of *varname*, defined via the NAM DECLARE command, is not long enough to hold the requested expression *expr*.

**System action**

Any remaining variables are processed.

**User response**

Correct the error and reissue the command. The NAM LIST command can be used to list all the declared variables and their respective lengths.

**Message Type**

REPLY

**KLVOP923: INVALID PASSWORD FOR USERID *xxxxxxxx*****Explanation**

A NAM SET command was issued to change a password, and the password was invalid.

**System action**

The password is changed to an unknown value.

**User response**

Issue the NAM SET command again with a valid password.

**Message Type**

REPLY

**KLVOP924: I/O ERROR: CNTRLPT(*cntrlpt*) DATABASE (*dsname*)****Explanation**

An attempt to put a record to the database *dsname* by a NAM command failed as a result of an I/O error.

**System action**

The command fails.

**User response**

Examine the TMS:Engine log for error message KLVVS021 or KLVVS031. These messages contain a more specific reason why the PUT operation failed.

**Message Type**

ERROR

**KLVOP926: CNTRLPT *cntrlpt* DATABASE UNAVAILABLE****Explanation**

A NAM command was issued but no control point database was defined for this control point.

**System action**

The command fails.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

## **KLVOP927: USER cccccccc - PASSWORD NOT DEFINED**

### **Explanation**

A NAM DISPLAY cccccccc command was issued, but no password has been set for this user ID.

### **System action**

None.

### **User response**

Contact your NAM database administrator to have a password set for this user ID.

### **Message Type**

REPLY

## **KLVOP929: cpname[,cntrlpt[,...]]**

### **Explanation**

The NAM DBLIST command lists each control point, along with its associated database.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVOP930: cpname [,SAF(SUBSYS=sysid, REQUESTOR=rqid)] [,RACF] [,DB] [,EXIT] [,NOTIFY] [,NONAF] [DATABASE=dsname]**

### **Explanation**

The NAM CPLIST command lists the current control points and their attributes.

### **System action**

None.

### **User response**

Contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVOP951: SCB DUMP**

### **Explanation**

The SNA command requested a dump of the session control block and status of a certain session. This command is used as a debugging tool for TMS:Engine application programmers. Text is for IBM® Software Support use.

### **System action**

None.

**User response**

None.

**Message Type**

ERROR

**KLVOP953: UNSUPPORTED SUBCOMMAND: *subcmd*****Explanation**

The SNA command was issued with the specified subcommand, but the subcommand is not supported.

**System action**

The command is ignored.

**User response**

Supply a valid subcommand name.

**Message Type**

ERROR

**KLVOP960: RTM *rtm-name* INTERFACE IS TERMINATING****Explanation**

The specified RTM interface is being terminated in response to a user request (RTM OFF).

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVOP961: RTM *rtm-name* INTERFACE ENABLED - EXTERNAL NAME: *ext-name*  
USEREXIT: *exit-name*****Explanation**

An RTM ON command for TYPE = ETE™ or NetSpy? was successfully processed. The interface to the indicated response time monitor is now active.

**System action**

None.

**User response**

None.

**Notes®**

This is a USEREXIT change only if RTM is already ON.

**Message Type**

INFO

## **KL VOP962: RTM *rtm-name* INTERFACE DISABLED**

### **Explanation**

An RTM OFF command processed successfully, or the interface was active but was deactivated while processing an RTM ON command. The interface to the indicated response time monitor is now inactive.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KL VOP963: COMMAND ERROR, RTM INTERFACE MAY BE SET "ON" OR "OFF"**

### **Explanation**

ON or OFF was not specified as the first positional parameter on an RTM command.

### **System action**

The RTM command is not processed and the RTM interface state is not changed.

### **User response**

Correct the command syntax and reissue the command.

### **Message Type**

ERROR

## **KL VOP964: RTM *rtm-name* INTERFACE IS NOT SUPPORTED FOR VTAM® LEVEL *version-level***

### **Explanation**

An RTM command could not be processed because TMS:Engine is executing under a release of z/OS® Communications Server that does not support the ETE™ or NetSpy RTM interface.

### **System action**

The RTM command is not processed and the RTM interface state remains inactive.

### **User response**

Verify that the release of z/OS® Communications Server that you are running is supported.

### **Message Type**

ERROR

## **KL VOP965: RTM *rtm-name* INTERFACE USEREXIT *exit-name* IS INVALID**

### **Explanation**

While processing an RTM ON command, the specified USEREXIT could not be loaded into virtual storage, or the user exit module did not contain an NOP instruction as the first word of the module.

**System action**

The RTM command is not processed and the RTM interface state remains inactive.

**User response**

Verify that the user exit module was properly assembled and link-edited into an accessible program library, and that the requirement for the initial NOP instruction is met. Contact IBM® Software Support if you need further assistance.

**Message Type**

ERROR

**KL VOP966: COMMAND ERROR, RTM *rtm-name* IS UNKNOWN****Explanation**

An RTM command specified a response time monitor whose name is not recognized. NPM, ETE™, and NetSpy are currently supported.

**System action**

The RTM command in error is not processed and the RTM interface state is not changed.

**User response**

Correct the name and issue the command again.

**Message Type**

ERROR

**KL VOP967: COMMAND ERROR, EXTERNAL NAME NOT VALID FOR RTM *rtm-name*****Explanation**

An RTM ON command specified a parameter that is valid only for the ETE™ or NetSpy interface.

**System action**

The RTM command in error is not processed and the RTM interface state is not changed.

**User response**

Correct the name and issue the command again, or omit the invalid parameter and issue the command again.

**Message Type**

ERROR

**KL VOP968: RTM NPM INTERFACE ENABLED - USEREXIT: *exit-name*****Explanation**

An RTM ON command for the NPM response time monitor was successfully processed. The interface to NPM is now active.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVO969: UNABLE TO CONNECT TO RTM *rtm-name*****Explanation**

The RTM ON command failed.

**System action**

The RTM interface state remains inactive.

**User response**

Refer to message KLVRT021. Correct the problem if possible and reissue the command.

**Message Type**

ALERT

**KLVO970: RTM *rtm-name* NOT STARTED****Explanation**

An RTM OFF command was issued for a response time monitor in which the interface is not active.

**System action**

Command is ignored.

**User response**

None.

**Message Type**

INFO

**KLVO971: GTF INTERFACE ENABLED, GTRACEID: *id* INTERNAL: *status*****Explanation**

A GTF ON command has successfully been completed. *id* is the ID written for all GTF records. *status* can be YES or NO. YES means that internal trace records will also be written to GTF data set.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVO972: GTF INTERFACE DISABLED****Explanation**

A GTF OFF command has successfully completed.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KL VOP973: COMMAND ERROR, GTF INTERFACE MAY BE SET "ON" OR "OFF"****Explanation**

A GTF command with an invalid operand has been entered.

**System action**

The command is rejected.

**User response**

Correct the command and reissue it.

**Message Type**

ERROR

**KL VOP974: COMMAND ERROR, GTRACEID: *id* IS INVALID****Explanation**

A GTF command with an invalid GTRACE ID has been entered.

**System action**

The command is rejected.

**User response**

Make sure that the GTRACE ID is within the range of 1-1023.

**Message Type**

ERROR

**KL VOP975: COMMAND ERROR, INTERNAL: *value* IS INVALID****Explanation**

A GTF command with an invalid value for the INTERNAL operand has been entered.

**System action**

The command is rejected.

**User response**

Valid values for the INTERNAL operand are YES or NO.

**Message Type**

ERROR

## **KLVPA001: SYNAD ERROR: *synadmsg***

### **Explanation**

A physical error occurred while reading a partitioned data set. The operating system provides *synadmsg*, which is documented in *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets*. The text of *synadmsg* includes the jobname, stepname, unit address, device type, ddname, operation, error description, absolute track address, and access method. Message KLVPA002 is issued to provide additional diagnostic information. If the data set is a PDS/E (extended partitioned data set), message KLVPA007 may follow with additional operating system information.

### **System action**

The library is closed then reopened, and the operation is retried.

### **User response**

Examine the text of *synadmsg* and KLVPA002 to determine the reason for the error. If the error description in *synadmsg* is OUT OF EXTENT, compress the library after the TMS:Engine address space has been terminated and is not running.

### **Message Type**

INFO

## **KLVPA002: SYNAD ERROR SENSE AND STATUS BYTES: *xxxxxyyyy***

### **Explanation**

A physical error has occurred while reading a partitioned data set. *xxxx* contains sense bytes 1 and 2, and *yyyy* contains status bytes 1 and 2 as documented in *DFSMS/MVS™ Using Datasets (SC26-4922)*. Message KLVPA001 was issued prior to this to provide additional diagnostic information.

### **System action**

The library is closed, reopened, and the operation is retried.

### **User response**

Review message KLVPA001 and examine the sense and status bytes to determine the cause of the error.

### **Message Type**

INFO

## **KLVPA003: LIBRARY ddname REFRESHED, SYNAD EXIT DRIVEN**

### **Explanation**

A physical error has occurred while reading the library referenced by ddname. The library has been closed and reopened in an attempt to recover from the failure. Messages KLVPA001 and KLVPA002 have been issued to provide diagnostic information regarding the error.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVPA004: LIBRARY *ddname* UNUSABLE, REFRESH FAILED**

### **Explanation**

A physical error occurred while reading the library referenced by *ddname*. The library was closed and reopened, and the error persisted when the operation was retried.

### **System action**

The request is terminated.

### **User response**

Examine the accompanying KLVPA001 and KLVPA002 messages to determine the cause for the failure. If *ddname* is a critical library such as RKANPENU, the TMS:Engine address space should be stopped and restarted as soon as possible.

### **Message Type**

INFO

## **KLVPA005: *error*, FUNCTION(PDS): '*text*'**

### **Explanation**

A syntax error, *error*, was found while processing the parameters passed to the partitioned data set SSPL dialog function. *text* is the text at or near the error. Message KLVD015 follows and identifies the associated dialog.

### **System action**

The dialog is terminated.

### **User response**

If this error occurs while running CL/SUPERSESSION®, correct the dialog and restart the dialog process. If this error occurs while running any other IBM® Tivoli® product, contact IBM® Software Support.

### **Message Type**

VIEW

## **KLVPA006: NO VALID REQUEST CODED FOR FUNCTION(PDS)**

### **Explanation**

A null string was passed as the request code to the partitioned data set SSPL dialog function. Message KLVD015 follows and identifies the associated dialog.

### **System action**

The dialog is terminated.

### **User response**

If this error occurs while running CL/SUPERSESSION®, correct the dialog and restart the dialog process. If this error occurs while running any other IBM® Tivoli® product, contact IBM® Software Support.

### **Message Type**

VIEW

## **KLVPA007: *synadmsg***

### **Explanation**

A physical error occurred while reading a PDS/E (extended partitioned data set). Message KLVPA007 follows KLVPA001 and displays additional information provided by the operating system.

### **System action**

See KLVPA001.

### **User response**

See KLVPA001.

### **Message Type**

INFO

## **KLVPK001: INSUFFICIENT STORAGE FOR PACKED STRING**

### **Explanation**

During a PACK operation KLV\$PACK determined that a piece of storage large enough to hold a packed string could not be obtained.

### **System action**

The thread is abended.

### **User response**

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

### **Message Type**

ERROR

## **KLVPM001: PSM NOT AVAILABLE: DIALOG(*dlg*) LU(*lu*) APPL(*appl*)**

### **Explanation**

A dialog attempted to execute a PSM dialog function that operates on the presentation space screen-image buffer (for example, PSMATTR) and there was no buffer. This may be caused, for example, by attempting to execute such a function within a dialog that has no BODY. *dlg* is the name of the dialog in error and it was executing on behalf of the terminal user at *lu*. *appl* is the controlling application for *lu*.

### **System action**

The current dialog fails.

### **User response**

Contact IBM® Software Support.

### **Message Type**

VIEW

## **KLVPM002: *eeeeeeeeeeeeeeee* FUNCTION(PSMATTR): *cccccccccccccccc***

### **Explanation**

The syntax error *eeeeeeeeeeeeeeee* has been encountered while parsing the PSM ATTR command *cccccccccccccccc*.

**System action**

The command is ignored and processing continues.

**User response**

Correct the problem and re-enter the command.

**Message Type**

VIEW

**KLVP003: UNSUPPORTED PSM SERVICE: DIALOG(*dlg*) LU(*lu*) APPL(*appl*)****Explanation**

A dialog attempted to execute the PSM function and the service name could not be recognized. This may be caused, for example, by misspelling the service name or by a PSM function that is obsolete. All services of the PSM function have been replaced by discrete functions. For example, PSM ATTR has been replaced by the PSMATTR function. *dlg* is the name of the dialog in error and it was executing on behalf of the terminal user at *lu*. *appl* is the controlling application for *lu*.

**System action**

The current dialog fails.

**User response**

Replace the obsolete PSM function service in error with the corresponding discrete function.

**Message Type**

VIEW

**KLVP005: PSM BUFFER INTEGRITY ERROR****Explanation**

An internal error was detected by TMS:Engine.

**System action**

TMS:Engine forces an abend with completion code U0100. The abend is associated with a single TMS:Engine user, whose terminal will hang. System operation for other users will continue normally. TMS:Engine will automatically create a dump.

**User response**

A VCANCEL command may be necessary to reinstate the hung user. Contact IBM® Software Support for help in resolving the error condition or in gathering the problem documentation that IBM® requires to research the error condition.

**Message Type**

ABEND

**KLVP010: PSM MAXIMUM ERROR POPUP COUNT IS *xx* [, WAS *yy*]****Explanation**

This message is displayed in response to the PSM command. With no operands the current setting for the maximum popup count is displayed. In response to the PSM ERPCOUNT=*xx* command both the original setting and the new setting are displayed.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVPM011: TERMINAL *luname* LOGGED OFF - ERPCOUNT EXCEEDED****Explanation**

A terminal, *luname*, has caused more simultaneous error recovery operations than the ERPCOUNT limit set by the PSM command. *luname* is logged off.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVPM012: PSM PRIVATE EXTENSION NOT INITIALIZED****Explanation**

The PSM command was issued and the PSM private extension was not available.

**System action**

The PSM command is not executed.

**User response**

Wait until TMS:Engine has completed initialization. Then reissue the command.

**Message Type**

INFO

**KLVPM013: PSM ERP INFO BLOCK POINTER IS ZERO****Explanation**

The PSM command was issued and the PSM ERP block was not available.

**System action**

The PSM command is not executed.

**User response**

Wait until TMS:Engine has completed initialization. Then reissue the command.

**Message Type**

INFO

**KLVP021: INPUT PROCESSING EXCEPTION: RC=*rc*,*lu\_name*,  
*modname*,*attention\_code*,*fdbk*,*error\_data*,*datastream***

**Explanation**

An input message from the physical terminal has caused an exception condition in PSM where:

- *rc*: Identifies the reason for the error. See the following reason code analysis table for more information.
- *lu\_name*: Physical terminal LU name.
- *modname*: Module identifier.
- *attention\_code*: Pending AID.
- *fdbk*: Feedback information internal to TMS:Engine.
- *error\_data*: Two bytes of error data. See the following reason code analysis table for a description of the valid data.
- *datastream*: Up to first ten bytes of the input message causing the exception.

The following table lists possible reason codes for the input exception with associated system action codes and user response codes. After locating the reason code, refer to the appropriate system action and user response following this table:

<i>Table 136: Description of reason codes for KLVP021</i>			
<b>Reason Code</b>	<b>Description</b>	<b>System Action</b>	<b>User Response</b>
0601	Internal Exception Condition	1	1
0602	Internal Exception Condition	1	1
0603	Internal Exception Condition	1	1
0604	Internal Exception Condition	1	1
0605	Internal Exception Condition	1	1
0606	Internal Exception Condition	2	1
0607	Internal Exception Condition	2	1
0608	Internal Exception Condition	2	1
0609	Internal Exception Condition	1	1
060A	Internal Exception Condition	1	1
060B	Internal Exception Condition	1	1
060C	Internal Exception Condition	1	1
060D	Internal Exception Condition	1	1
060E	Internal Exception Condition	1	1
0901	Internal Exception Condition	1	1
0902	Internal Exception Condition	1	1
0903	Internal Exception Condition	1	1
0904	Internal Exception Condition	1	1
0905	Unsupported AID received ( <i>error_data</i> = unsupported aid)	1	2
0906	Invalid CLEAR/CLEAR partition	1	2
0907	Internal Exception Condition	1	1
0908	Internal Exception Condition	1	1
0909	Internal Exception Condition	1	1
090A	Invalid buffer address ( <i>error_data</i> = buffer address)	1	2

Reason Code	Description	System Action	User Response
090B	Invalid codepoint detected (error_data = codepoint)	1	2
090C	Invalid value in Set Attribute (error_data = Set Attribute type/ value pair)	1	2
090D	Unexpected end of output (error_data = last 1 or 2 bytes)	1	2
090E	Internal Exception Condition	2	1
090F	Internal Exception Condition	2	1
0910	Internal Exception Condition	2	1
0911	Internal Exception Condition	2	1
0912	Internal Exception Condition	2	1
0913	Unexpected formatted input (error_data = buffer address)	2	2
0914	Input data from unknown field (error_data = buffer address)	2	2
0915	Attention key received during pre- popup read.	2	2
0916	Read modified already satisfied.	2	2

### System action

One of the following:

- Action 1. Error recovery displays the TERMINAL INPUT ERROR message on the terminal. The input message is rejected with an appropriate sense code and normal processing resumes.
- Action 2. Error recovery ignores the input message and normal processing resumes.

### User response

One of the following:

- If the TERMINAL INPUT ERROR message displays, press **ENTER** to remove the message and continue normal operation. If the problem persists, the system administrator should obtain a VSSTRACE of the failure and a copy of any related error messages and contact IBM® Software Support.
- If the TERMINAL INPUT ERROR message displays, press **ENTER** to remove the message and continue normal operation. If the problem persists, the system administrator should analyze the failure and contact the appropriate hardware or software vendor.

### Message Type

INFO

## KLVP051: KLVINPSM RKANPAR PARAMETERS:

### Explanation

Module KLVINPSM logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVP052.

### System action

None.

### User response

None.

**Message Type**

LOG

**KLVPM052: *parameters*****Explanation**

As the parameters in module KLVINPSM are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVPM101: QUERY REPLY DATA IS NOT VALID FOR LU(*lu*)****Explanation**

Query reply data received from the named lu, in response to a 3270 Read Partition Query command, could not be correctly interpreted.

**System action**

The session with the named lu continues normally. The TMS:Engine Presentation Space Manager will not allow certain 3270 extended data stream orders (for example color, highlighting) to be used with the named lu.

**User response**

Contact IBM® Software Support.

**Message Type**

LOG

**KLVPR000: *eeeeeeeeeeeeeeee*, FUNCTION(PRODUCT): *cccccccccccccccc*****Explanation**

The syntax error *eeeeeeeeeeeeeeee* has been encountered while parsing the PSM command *cccccccccccccccc*.

**System action**

The current dialog fails.

**User response**

Correct the dialog.

**Message Type**

VIEW

## **KLVP001: PRINT FAILED FOR *user* TO *printer*, SENSE=*xxxxxxxx***

### **Explanation**

A VSSPRINT or PSMPRINT request from user to printer *printer* failed. For a VSSPRINT, user represents an actual userid ID. For a PSMPRINT, user represents a physical terminal ID. The sense code from the failing send request is *xxxxxxxx*.

### **System action**

The print request terminates.

### **User response**

Using the sense information, try to determine the problem with the printer and retry.

### **Message Type**

INFO

## **KLVR001: GCSDISKS REFRESHED**

### **Explanation**

The REFRESH GCSDISKS command was successful.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVR002: INVALID REFRESH TYPE: *type***

### **Explanation**

The type specified in the REFRESH command is invalid.

### **System action**

The command fails.

### **User response**

Correct the type parameter and reissue the command.

### **Message Type**

ERROR

## **KLVR003: DIALOG *dlgname* REFRESHED (*tracetype*) LANGUAGE(*language*)**

### **Explanation**

The dialog *dlgname*, specified in the REFRESH command, was successfully refreshed. *tracetype* indicates whether (TRACE) or not (NOTRACE) the dialog is traceable. *language* is the language code.

### **System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVRE004: UNABLE TO REFRESH DIALOG *dlgname* LANGUAGE(*language*)****Explanation**

An error occurred while trying to refresh the DIALOG *dlgname* specified in the REFRESH command. *language* is the language code used during the refresh attempt.

**System action**

The command fails. Any previously compiled copy of *dlgname* remains available.

**User response**

This message is accompanied by KLVDMnnn messages that indicate why the panel could not be refreshed.

**Message Type**

ERROR

**KLVRE005: BLDL FAILED FOR *modname*****Explanation**

A BLDL failed during a refresh operation for module *modname* specified in the REFRESH MODULE command.

**System action**

The command fails.

**User response**

This message is accompanied by message KLVCM003, which indicates why the BLDL failed.

**Message Type**

ERROR

**KLVRE006: BLDL COMPLETE: MODULE(*modname*) SIZE: *size* ENTRY: *entry*****Explanation**

The REFRESH MODULE command completed successfully for *modname*. *size* is the decimal size of the module in bytes. *entry* is the hexadecimal entry point address.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

## **KLVRE007: PARAMETER *pppppppp* INVALID**

### **Explanation**

The trace status specified on a REFRESH command is not **TRACE** or **NOTRACE**.

### **System action**

The command is ignored and processing continues.

### **User response**

Re-enter the command and specify either **TRACE** or **NOTRACE**.

### **Message Type**

ERROR

## **KLVRE008: MISSING OR INVALID DSNAME(*dsname*)**

### **Explanation**

An invalid data set name, *dsname*, was coded on a REFRESH SENSE command.

### **System action**

The sense code table is not refreshed. The previous global sense table remains in effect.

### **User response**

Reissue the REFRESH SENSE command with a valid data set name.

### **Message Type**

ERROR

## **KLVRE009: SENSE CODE TABLE REFRESH FROM "*dsname(member)*" *resulttext***

### **Explanation**

A REFRESH SENSE command has completed. *dsname* is the data set name and *member* is the member name that contain the table definitions. *resulttext* displays the success or failure of the command:

- **COMPLETED SUCCESSFULLY:** The global sense table has been updated.
- **UNSUCCESSFUL, MEMBER NOT FOUND:** Member is not in *dsname*.
- **UNSUCCESSFUL, ALLOCATE FAILED FOR DSN:** *dsname* could not be allocated.
- **UNSUCCESSFUL, OPEN ERROR:** A z/OS® OPEN for *dsname* failed.
- **UNSUCCESSFUL, SYNTAX ERROR ENCOUNTERED:** Member contains an invalid sense code definition.

### **System action**

If the command was successful, the global sense table has been updated. Otherwise, the command terminates and the previous sense table remains in effect.

### **User response**

Depends on *resulttext*.

- **COMPLETED SUCCESSFULLY:** None.
- **UNSUCCESSFUL, MEMBER NOT FOUND:** Reissue the command with the correct member and data set names.

- **UNSUCCESSFUL, ALLOCATE FAILED FOR DSN:** Review RKLVLLOG for message KLVDA002 followed by message IJK56228I from SVC99. Reissue the command with a valid, cataloged data set name.
- **UNSUCCESSFUL, OPEN ERROR:** Review the JES log for IBM® data management messages (IEC). Ensure that data set is a partitioned data set.
- **UNSUCCESSFUL, SYNTAX ERROR ENCOUNTERED:** Review RKLVLLOG for KLVSCnnn and KLVSEnnn error messages. Correct the errors in member. Then reissue the command.

### Message Type

REPLY for success; ERROR otherwise

## KLVRM004: LOGICAL RESOURCE EXIT STACK INTEGRITY ERROR

### Explanation

The TMS:Engine Resource Manager detected inconsistent data while processing a logical resource purge or cleanup request, usually because of a storage overlay.

### System action

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file or the system dump data sets or both. The resource involved is left in an indeterminate state.

### User response

Recycle the TMS:Engine address space as soon as possible. Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### Message Type

ABEND

## KLVR001: INVALID \$RSS REQUEST

### Explanation

KLV\$RSS detected an invalid function code in its input parameter list.

### System action

The thread is terminated.

### User response

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

### Message Type

ABEND

## KLVR002: INVALID RSS RELEASE REQUEST

### Explanation

An RSS release request was made for a lock that was not held.

### System action

The thread is terminated.

### User response

Contact IBM® Software Support. Keep dump, RKLVLLOG, SYSLOG, and runsheets.

**Message Type**

ABEND

**KLVRT001: PARAMETER ERROR****Explanation**

TMS:Engine detected an invalid RTM event code.

**System action**

A call to RTM fails. TMS:Engine creates a DUMP and continues processing.

**User response**

Contact IBM® Software Support with the contents of the DUMP.

**Message Type**

ABEND

**KLVRT010: RTM NPM INTERFACE *event* IS UNRECOGNIZED****Explanation**

The NPM interface module does not recognize the session manager event code passed. Event code is a 2 hexadecimal digit field.

**System action**

The NSI vector containing the session manager event is not processed.

**User response**

Contact IBM® Software Support.

**Message Type**

INFO

**KLVRT011: NPM MODULE FNMNSI REQUIRES APF AUTHORIZATION****Explanation**

RTM support for NPM has been selected, but the TMS:Engine job step is not authorized.

**System action**

The RTM command is not processed and the RTM interface state remains inactive.

**User response**

Authorize the job step. Make sure all libraries concatenated to RKANMODL are APF authorized.

**Message Type**

ALERT

**KLVRT012: UNABLE TO LOAD NPM MODULE FNMNSI****Explanation**

TMS:Engine was unable to load the IBM-supplied module FNMNSI because the NPM load library is not in the RKANMODL library concatenation or in LINKLIST.

**System action**

The RTM command is not processed and the RTM interface state remains inactive.

**User response**

Make FNMNSI accessible to TMS:Engine by doing one of the following:

- Copy module FNMNSI to one of the RKANMODL libraries and issue the RTM ON command.
- Concatenate the NPM load library to RKANMODL, restart TMS:Engine, and issue the RTM ON command.

**Message Type**

ALERT

**KLVRT013: \$STG ERROR****Explanation**

TMS:Engine was unable to allocate storage for the NPM/NSI NMVT request units.

**System action**

A call to NSI fails, TMS:Engine creates a DUMP and continues processing.

**User response**

Contact IBM® Software Support with the contents of the DUMP.

**Message Type**

ABEND

**KLVRT014: PARAMETER ERROR****Explanation**

A call to NSI failed because of an invalid internal parameter.

**System action**

A call to NSI fails, TMS:Engine creates a DUMP and continues processing.

**User response**

Contact IBM® Software Support with the contents of the DUMP.

**Message Type**

ABEND

**KLVRT020: RTM NPM SEND REQUEST FAILED: LU=*lu-name* APPL=*applname*  
EVENT=X'*xx*'****Explanation**

A non-zero return code was returned from the IBM-supplied interface module FNMNSI because of a request error or an exceptional condition where:

- *lu-name* is the physical terminal name.
- *applname* is the application name if applicable.

**System action**

Processing associated with the request is terminated.

**User response**

A list of return codes and reason codes can be found in *IBM Z® NetView Messages and Codes*, which you can find at [IBM Z® NetView \(https://www.ibm.com/docs/en/z-netview\)](https://www.ibm.com/docs/en/z-netview). Contact IBM® Software Support if you need further assistance.

**Message Type**

INFO

**KLVRT021: RTM NPM request FAILED: RC=*nn* REASON=*nnn*****Explanation**

A non-zero return code was returned from the IBM-supplied interface module FNMNSI because of a request error or an exceptional condition. This message is produced for CONNECT and DISCONNECT requests.

**System action**

Processing associated with the request is terminated.

**User response**

A list of return codes and reason codes can be found in *IBM Z® NetView Messages and Codes*, which you can find at [IBM Z® NetView \(https://www.ibm.com/docs/en/z-netview\)](https://www.ibm.com/docs/en/z-netview). Contact IBM® Software Support if you need further assistance.

**Message Type**

ALERT

**KLVRT022: RTM NPM VECTOR ERROR****Explanation**

TMS:Engine detected an invalid internal NPM function call.

**System action**

A call to NSI fails, TMS:Engine creates a DUMP and continues processing.

**User response**

Contact IBM® Software Support with the contents of the DUMP.

**Message Type**

ABEND

**KLVRT023: RTM NPM NSI ADDRESS SPACE NOT RUNNING****Explanation**

The NPM NSI address space is not running. NPM has rejected a SEND, CONNECT, or DISCONNECT request by TMS:Engine with a return code of 20.

**System action**

The RTM interface in TMS:Engine is terminated if active. If the rejected request is CONNECT, TMS:Engine sets a timer and retries the request every 60 seconds.

**User response**

Start the NSI address space and reissue the RTM ON command.

**Message Type**

ALERT

**KLVRT030: \$STG ERROR****Explanation**

TMS:Engine was unable to allocate storage for the ETE™ or NetSpy mapping message.

**System action**

TMS:Engine creates a DUMP and continues processing.

**User response**

Contact IBM® Software Support with the contents of the DUMP.

**Message Type**

ABEND

**KLVRT031: PARAMETER ERROR****Explanation**

TMS:Engine was unable to process the mapping message for ETE™ or NetSpy interface because of an internal invalid parameter.

**System action**

TMS:Engine creates a DUMP and continues processing.

**User response**

Contact IBM® Software Support with the contents of the DUMP.

**Message Type**

ABEND

**KLVSC001: KEYWORD NOT FOUND: *keyword environmental\_information*****Explanation**

TMS:Engine was parsing a line and encountered a keyword that was not defined. This is one message in a class of syntax error messages.

**System action**

The action being performed terminates.

**User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

**Message Type**

ERROR, ALERT, WARNING

## **KLVS002: REQUIRED OPERAND OMITTED: *field environmental\_information***

### **Explanation**

TMS:Engine was parsing a line and encountered a required operand that was omitted. This is one message in a class of syntax error messages.

### **System action**

The action being performed terminates.

### **User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

### **Message Type**

ERROR, ALERT, WARNING

## **KLVS003: OPERAND TOO SHORT: *operand environmental\_information***

### **Explanation**

TMS:Engine was parsing a line and encountered a keyword or positional operand that was too short. This is one message in a class of syntax error messages.

### **System action**

The action being performed terminates.

### **User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

### **Message Type**

ERROR, ALERT, WARNING

## **KLVS004: OPERAND TOO LONG: *environmental\_information operand***

### **Explanation**

TMS:Engine was parsing a line and encountered a keyword or positional operand that was too long. This is one message in a class of syntax error messages.

### **System action**

The action being performed terminates.

### **User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

### **Message Type**

ERROR, ALERT, WARNING

## **KLVSC005: INVALID NUMERIC OPERAND: *operand environmental\_information***

### **Explanation**

TMS:Engine was parsing a line and encountered a keyword or positional operand that must be numeric, but is not. This is one message in a class of syntax error messages.

### **System action**

The action being performed terminates.

### **User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

### **Message Type**

ERROR, ALERT, WARNING

## **KLVSC006: INVALID QUOTED STRING: *string environmental\_information***

### **Explanation**

TMS:Engine was parsing a line and encountered a string that did not adhere to quoting rules, probably due to a mismatch of quotes. This is one message in a class of syntax error messages.

### **System action**

The action being performed terminates.

### **User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

### **Message Type**

ERROR, ALERT, WARNING

## **KLVSC007: INVALID DELIMITER USAGE: *string environmental\_information***

### **Explanation**

TMS:Engine was parsing a line and encountered an invalid use of delimiters. This is caused by either a mismatch of delimiters or improper delimiters. Valid delimiters are:

- **<blank>**: Blank separates parameters.
- **,**: Comma separates parameters.
- **=**: Equal separates keyword from keyword value.
- **(**: Open parens separates keyword from keyword value.
- **'x'**: Parameters within single quotes contain text with embedded delimiters.
- **-**: Dash indicates continuation.
- **+**: Plus continues as is.
- **)**: Close parens delimits the end of a keyword value.

A common cause of this error is data added to a keyword that is defined as a keyword without data. This is one message in a class of syntax error messages.

**System action**

The action being performed terminates.

**User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

**Message Type**

ERROR, ALERT, WARNING

**KLVS008: AMBIGUOUS KEYWORD REFERENCE: keyword environmental\_information****Explanation**

TMS:Engine was parsing a line and encountered a keyword that was ambiguous, probably because not enough characters were included to uniquely define the keyword. This is one message in a class of syntax error messages.

**System action**

The action being performed terminates.

**User response**

The environmental portion of the message indicates where the syntax error was detected. Use this information to correct the error.

**Message Type**

ERROR, ALERT, WARNING

**KLVS009: INVALID TIME SPECIFICATION****Explanation**

A scan failed because time was specified incorrectly.

**System action**

The command fails.

**User response**

Correct the time parameter and try again.

**Message Type**

ERROR

**KLVS010: \$GSA TABLE ID IS INVALID****Explanation**

While processing a STORCHK command, the \$GSA table failed a validity check.

**System action**

The command is ignored and processing continues.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVSC011: STORAGE OVERLAY - BAD SRT PTR. R9=BLK****Explanation**

During STORCHK command processing, a bad SRT pointer was discovered.

**System action**

The system is abnormally terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVSC012: STORAGE OVERLAY - BAD BLOCK ID. R9=BLK****Explanation**

During STORCHK command processing, a bad storage block ID was discovered.

**System action**

The system is abnormally terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVSC013: STORAGE OVERLAY - BAD FREE CHAIN PTR. R9=BLK****Explanation**

During STORCHK command processing, a bad pointer was discovered in the free chain.

**System action**

The system is abnormally terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVSC015: STORAGE OVERLAY - BAD TRAILER. R9=BLK****Explanation**

During STORCHK processing, a storage block was discovered which did not have a correct trailing string.

**System action**

The system is abnormally terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVS017: STORAGE OVERLAY - FREE STORAGE NOT FF. R9=BLK****Explanation**

During STORCHK command processing, a block of free storage was found to contain something other than X'FF'.

**System action**

The system is abnormally terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVS021: GMEM STORAGE CHECK CANNOT RUN WITH OVERLAY TOOL****Explanation**

An attempt was made to run STORCHK concurrently with the overlay detection tool. The tools may not run concurrently.

**System action**

The STORCHK command is ignored.

**User response**

If you want to run STORCHK, stop the overlay detection tool.

**Message Type**

ERROR

**KLVS022: GMEM STORAGE CHECK IS STARTING...****Explanation**

Processing of a STORCHK command is starting.

**System action**

Processing continues.

**User response**

None.

**Message Type**

INFO

## **KLVSC023: GMEM STORAGE CHECK IS COMPLETE. NO ERRORS WERE FOUND.**

### **Explanation**

Processing of a STORCHK command has completed.

### **System action**

Processing continues.

### **User response**

None.

### **Message Type**

INFO

## **KLVSD001: PRIMARY MAIN STORAGE INFORMATION:**

### **Explanation**

The STORAGE command was issued and this message identifies the start of information about TMS:Engine primary storage use. If DETAIL was specified, message KLVSD003 follows this; otherwise KLVSD005 follows.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVSD002: EXTENDED MAIN STORAGE INFORMATION:**

### **Explanation**

The STORAGE command was issued and this message identifies the start of information about TMS:Engine extended storage use. If DETAIL was specified, message KLVSD003 follows this; otherwise KLVSD005 follows. This message follows KLVSD008.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVSD003: ALLOCATION DETAIL:**

### **Explanation**

This message is a header message and identifies the start of detailed information about TMS:Engine storage use. It is a conditional extension of KLVSD001 and KLVSD002.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVSD004: SIZE(*range*) USE(*usecnt*) TOTAL(*totcnt*) ACCESSED(*accnt*)****Explanation**

This message displays information about a storage pool. It follows KLVSD003.

- *range*: Specifies a range (m-n, in bytes) of the sizes of data blocks in this storage pool. For example, a range of 116 indicates that this pool contains all blocks that are from 116 bytes long.
- *usecnt* Specifies the number of blocks in use in the pool.
- *totcnt* Specifies the total number of blocks in the pool.
- *accnt* Specifies the number of times a request was made against the pool.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVSD005: LIMIT(*stolim*) SLOPE(*sl*) SIZES(*range*) TOTAL(*tot*)****Explanation**

This message appears in response to the TMS:Engine STORAGE operator command and displays storage parameters about primary or extended. It follows KLVSD001 and KLVSD002, or KLVSD004 if DETAIL was requested.

- *stolim*: Specifies (in bytes) the size of the largest block that can be allocated.
- *sl*: An internal parameter.
- *range*: Specifies the number of storage areas.
- *tot*: Specifies (in kilobytes) the total amount of storage available to end-user applications and TMS:Engine functions. Storage not included in this total is storage obtained during TMS:Engine initialization for the following:
  - Resident load modules
  - Internal trace table
  - Logical Resource Table
  - Log buffers

This storage is excluded from the *tot* field of the display because once allocated it remains allocated for the life of the address space.

**System action**

None.

### User response

None.

### Message Type

REPLY

## **KLVS006: FREE(*free*) CARVED(*carved*) OVERHEAD(*ovhead*)**

### Explanation

This message appears in response to the TMS:Engine STORAGE operator command and specifies additional information about primary and extended storage. It follows KLVS005.

- *free*: Specifies (in kilobytes) the amount of storage available.
- *carved*: Specifies (in kilobytes) the amount of storage allocated for use in fulfilling storage requests.
- *ovhead*: Specifies (in bytes) the amount of storage used for storage control.

### System action

None.

### User response

None.

### Message Type

REPLY

## **KLVS007: *pp*% IS IN USE; *tt*% ALLOWED [- THRESHOLD EXCEEDED]**

### Explanation

This message displays the amount of storage in use for primary or extended storage. It follows KLVS006.

- *pp*: Indicates the amount of storage currently in use.
- *tt*: Indicates the defined quiesce threshold level for free storage. This will not appear in the message if the threshold is defined as 0%.

THRESHOLD EXCEEDED will appear when the threshold value has been met (for instance, in quiesce mode for free storage).

### System action

TMS:Engine will inhibit the initiation of new work (sessions, dialogs, and so on). Work that is already active will continue to run. When the storage in use drops below the threshold, normal processing returns.

### User response

If THRESHOLD EXCEEDED persists, contact your systems administrator who should review the TMS:Engine storage use in order to determine what actions should take place.

### Message Type

REPLY

## **KLVS008: *pp*% HAS BEEN CARVED; *tt*% ALLOWED [- THRESHOLD EXCEEDED]**

### Explanation

This message displays the amount of storage carved in primary or extended storage. It follows KLVS007.

- *pp*: Indicates the amount of storage currently carved.

- *tt*: Indicates the defined quiesce threshold level for carved storage. This will not appear in the message if the threshold is defined as 0%.

THRESHOLD EXCEEDED will appear when the threshold value has been met (for instance, in quiesce mode for carved storage).

### System action

TMS:Engine will inhibit the initiation of new work (sessions, dialogs, etc.). Once the threshold has been reached, this inhibition remains until TMS:Engine is restarted.

### User response

When THRESHOLD EXCEEDED is displayed, perform an orderly shutdown of TMS:Engine. Then contact your systems administrator, who should review the TMS:Engine storage use in order to determine what actions should take place.

### Message Type

REPLY

## KLVS021: TMS(*num*) PREFIX(*pf<sub>x</sub>*) CUSHION(*cshn*)

### Explanation

This message appears in response to the TMS:Engine STORAGE operator command and displays information about TMS:Engine temporary storage use.

- *num*: Specifies (in bytes) the amount of temporary storage allocated. TMS:Engine uses this storage, for example, to resolve a string expression. In general, this value should be zero.
- *pf<sub>x</sub>*: Specifies (in bytes) the length of the storage block prefix.
- *cshn*: Specifies (in bytes) the overhead for each storage block. This value is equal to the value of *pf<sub>x</sub>* plus the debug overhead, if any.

### System action

None.

### User response

None.

### Message Type

REPLY

## KLVS031: BUFFER POOL INFORMATION:

### Explanation

This message marks the beginning of the buffer pool information.

### System action

None.

### User response

None.

### Message Type

REPLY

## KLVS032: POOL BUFSIZE(*bufsize*) SEGSIZE(*segsi*ze) MASK(*mask*) SIDEQ(*n*)

### Explanation

This message provides detailed information about a buffer pool. Currently, there are four buffer pools, one for each of the standard 3270 model sizes. The meaning of the individual fields are as follows:

- *bufsize*: The size of the individual buffers that are allocated from within a buffer segment. The standard sizes of the four buffer pools correspond to the 3270 model types as follows:
  - 1920 for Model2
  - 2560 for Model3
  - 3440 for Model4
  - 3564 for Model5
- *segsi*ze: The size of the buffer segments in the pool. The system automatically determines the segment size, with 65536 (64K) being the largest possible size and also the best size for buffer pool performance.
- *mask*: A bit mask that indicates the possible buffer allocations within the buffer segment.
- *sideq*: A list header to buffers that have been logically released but which are not yet available for reallocation,

### System action

None.

### User response

None.

### Message Type

REPLY

## KLVS033: BUFFERS INUSE(*inuse*) MAX(*max*) GETS(*gets*) FREES(*frees*)

### Explanation

This message provides additional information about a buffer pool. It follows KLVS032.

- *inuse*: The number of buffers that are currently in use. This number is obtained from the simple calculation of gets minus frees at the time the display is requested.
- *max*: The maximum number of buffers from this pool that were ever concurrently in use. This statistic is checked and updated, if necessary, every time a buffer is obtained.
- *gets*: The number of buffer allocation requests directed to this pool. This number is a simple running total of get requests throughout the life of the system.
- *frees*: The number of buffer deallocation requests directed to this pool. This number is a simple running total of free requests throughout the life of the system.

### System action

None.

### User response

None.

### Message Type

REPLY

## **KLVS034: SEGMENTS INUSE(*inuse*) MAX(*max*) GETS(*gets*) FREES(*frees*) Q(*q*) QMAX(*qmax*)**

### **Explanation**

This message provides additional information about a buffer pool. It follows KLVS033.

- *inuse*: The number of segments that are currently in use. This number is obtained from the simple calculation of gets minus frees at the time the display is requested.
- *max* The maximum number of segments that were ever concurrently allocated to this pool. This statistic is checked and updated, if necessary, every time a segment is obtained.
- *gets* The number of segment allocations performed for this pool. This number is a simple running total of get requests throughout the life of the system.
- *frees* The number of segment deallocations performed for this pool. This number is a simple running total of free requests throughout the life of the system.
- *q*: The number of segments currently on the free queue of segments containing available buffers. This statistic is updated every time a segment is added to or removed from the free queue.
- *qmax* The maximum number of segments that were ever concurrently on the free queue of segments containing available buffers. This statistic is checked and updated, if necessary, every time a segment is added to the free queue.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVS039: END OF BUFFER POOL INFORMATION**

### **Explanation**

This message marks the end of the buffer pool information.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVS101: MAIN STORAGE SCAN STARTED**

### **Explanation**

The storage MAP command was issued and this message identifies the start of information about TMS:Engine storage use. Messages KLVS102 thru KLVS105, and KLVS107 follow this.

### **System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVSD102: MAIN STORAGE SCAN ENDED****Explanation**

This message marks the end of storage MAP information.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVSD103: NAME(*blkid*) SIZE(*length*) TOTAL(*count*)****Explanation**

This message displays information about the content of carved, allocated storage. Storage reported in this message is storage which has been allocated with a specific, printable control block ID. It follows KLVSD107.

- *blkid*: Specifies the control block ID for a data structure found in storage. For example, a *blkid* of **\$ACB** indicates that an Application Control Block was located in storage.
- *length*: Specifies the length in bytes of the *blkid*
- *count*: Specifies the total number of *blkid* of size *length* located in storage.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVSD104: NAME(...) SIZE(*length*) TOTAL(*count*)****Explanation**

This message displays information about the content of carved, allocated storage. Storage reported in this message is storage which has been allocated as a typed, self-defining data structure. These data structures do not contain a printable control block ID. The **NAME** reported in this message is "...".

- *...* : Specifies that the data structure located in storage does not have a printable control block ID.
- *length* Specifies the length in bytes of the "self-defining" data structure.
- *count* Specifies the total number of "typed" structures of size *length* located in storage.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVS105: NAME(*FREE*) SIZE(*length*) TOTAL(*count*)****Explanation**

This message displays information about the content of carved, free storage. Storage reported in this message is storage which has been carved and now resides on a free list. This storage is available for re-use..

- *FREE*: Specifies that the data structure located in storage is on the free list.
- *length*: Specifies the length in bytes of this free block.
- *count*: Specifies the total number of "FREE" blocks of size length located in storage.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVS106: INSUFFICIENT STORAGE TO PROCESS COMMAND****Explanation**

Processing of the storage MAP command has terminated because there is insufficient storage in the extended private area.

**System action**

The storage MAP command is terminated.

**User response**

Reissue the command after ensuring that there is sufficient storage. If the problem persists, contact IBM® Software Support.

**Message Type**

ERROR

**KLVS107: STORAGE MAP FOR *areadesc* STORAGE****Explanation**

This message displays the specific areas of storage to be mapped. The mapped area is determined from the operands specified on the storage MAP command.

- *areadesc*: Specifies the area of storage to be mapped. PRIMARY indicates only storage below the 16M line will be mapped. EXTENDED indicates only storage above the 16M line will be mapped. PRIMARY AND EXTENDED indicates all TMS:Engine storage will be mapped. PRIMARY AND EXTENDED is the default.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVSD108: STORAGE INTEGRITY ERROR. SCAN TERMINATED****Explanation**

Processing of the storage MAP command has terminated because of errors encountered in the storage management data structures.

**System action**

The command is terminated. TMS:Engine issues snap dumps of the environment for problem determination. TMS:Engine processing continues.

**User response**

Contact IBM® Software Support. Keep the dump and RKLVLLOG.

**Message Type**

ERROR

**KLVSE051: DEFAULT SENSE CODE TABLE DEFINED****Explanation**

The global sense code table has been constructed from the RKANPAR member KLVINSNS.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVSE052: INVALID TYPE SPECIFIED: *type* STATEMENT# *nnn*****Explanation**

A sense code *type* other than LUSTAT or EXRESP was found in statement *nnn*.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

Correct the statement and reissue the REFRESH SENSE command.

**Message Type**

ERROR

### **KLVSE053: SENSE TABLE SIZE(*nnnn*)**

#### **Explanation**

The sense code table has been built or refreshed and occupies *nnnn* bytes of storage.

#### **System action**

None.

#### **User response**

None.

#### **Message Type**

LOG

### **KLVSE054: SYNTAX ERROR CONFLICTING PARAMETERS FOR SENSE ACTION SETTING '*statement*', STATEMENT# *nnn***

#### **Explanation**

The sense code statement contains an unknown keyword.

#### **System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

#### **User response**

Correct the statement and reissue the REFRESH SENSE command.

#### **Message Type**

ERROR

### **KLVSE055: USER SENSE CODE TABLE DEFINED**

#### **Explanation**

The REFRESH SENSE command has successfully completed and the global sense table has been updated.

#### **System action**

None.

#### **User response**

None.

#### **Message Type**

INFO

### **KLVSE056: TABLE CAPACITY OF 64K LU NAMES EXCEEDED FOR SENSE(*xxxxxxxx*)**

#### **Explanation**

The sense code listed had more than 64K names listed for FROMAPPL or FROMLU.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

Reduce the number of LU names for the sense code and reissue the REFRESH SENSE command.

**Message Type**

ERROR

**KLVS057: INVALID HEX CHARACTERS IN SENSE CODE FIELDS, '*statement*', STATEMENT# *nnn*****Explanation**

The sense code value in the statement indicated has characters other than 0-9 or A-F.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

Correct this sense code to contain valid hex characters and reissue the REFRESH SENSE command.

**Message Type**

ERROR

**KLVS058: SENSE TABLE SIZE (*nnnnn*), EXCEEDS REQUEST LIMIT****Explanation**

The sense code table size is larger than the current storage request limit.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

If the table cannot be specified with wildcard names to decrease the storage needed to hold it, the limit value for extended storage must be increased.

**Message Type**

ERROR

**KLVS059: SENSE TABLE TOO LARGE, IGNORED****Explanation**

The sense code table exceeds 2G bytes and cannot be built.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVS060: DUPLICATE LU ID FOR THIS SENSE CODE, THE FIRST IS RETAINED, '*statement*', STATEMENT# *nnn*****Explanation**

An LU ID was encountered that matches one already stored for this sense code.

**System action**

The processing actions specified on the first definition are retained.

**User response**

Remove the duplicate LU statement(s).

**Message Type**

WARN

**KLVS061: EITHER FROMAPPL OR FROMLU IS REQUIRED, '*statement*', STATEMENT# *nnn*****Explanation**

FROMAPPL or FROMLU must be coded.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

Add the required keyword and reissue the REFRESH SENSE command.

**Message Type**

ERROR

**KLVS062: BOTH FROMAPPL AND FROMLU ARE NOT ALLOWED, '*statement*', STATEMENT# *nnn*****Explanation**

FROMAPPL and FROMLU cannot be coded together.

**System action**

If this error is encountered during TMS:Engine initialization, only the default sense rules will be loaded. If this response was from a REFRESH SENSE command then the currently active global sense table is not refreshed.

**User response**

Remove either FROMLU or FROMAPPL and reissue the REFRESH SENSE command.

**Message Type**

ERROR

## **KLVSE063: KLVINSNS RKANPAR PARAMETERS:**

### **Explanation**

Module KLVINSNS logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVSE064.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVSE064: *parameters***

### **Explanation**

As the parameters in module KLVINSNS are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVSI000: *eeeeeeeeeeeeeeeeee: ppppppppp, ddname(KLVINSTG)***

### **Explanation**

A syntax error, *eeeeeeeeeeeeeeeeee*, was encountered while processing the *pppppppppp* parameter from the KLVINSTG member.

### **System action**

Initialization is terminated.

### **User response**

Edit the KLVINSTG member and correct the syntax error.

### **Message Type**

WARNING

## **KLVSI001: INVALID STORAGE CLASS *ccc* ENCOUNTERED IN RKANPAR(KLVINSTG)**

### **Explanation**

TMS:Engine encountered an invalid storage class in the KLVINSTG member. *ccc* is the invalid class found. Storage class must be P or X.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**KLVSIO02: INVALID STORAGE SIZE *sss* ENCOUNTERED IN  
RKANPAR(KLVINSTG)****Explanation**

TMS:Engine encountered an invalid storage size in the KLVINSTG member. *sss* is the invalid size found. Storage size must be a value from 1 to the maximum defined in the LIMIT start-up parameter.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

WARNING

**KLVSIO03: INVALID STORAGE COUNT *nnn* ENCOUNTERED IN  
RKANPAR(KLVINSTG)****Explanation**

TMS:Engine encountered an invalid block count in the KLVINSTG member. *nnn* is the invalid count found. Storage count must be a positive number.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

WARNING

**KLVSIO04: *nnn* BLOCKS OF LENGTH *sss* GENERATED IN *ccc* STORAGE****Explanation**

*nnn* is the number of storage blocks generated, *sss* is the size of the blocks generated, and *ccc* is the storage class for the blocks generated.

**System action**

None.

**User response**

None.

**Message Type**

INFO

## **KLVSIO05: STORAGE INITIALIZATION COMPLETE**

### **Explanation**

The storage initialization is complete.

### **System action**

None.

### **User response**

None.

### **Message Type**

INFO

## **KLVSIO06: KLVINSTG RKANPAR PARAMETERS:**

### **Explanation**

Module KLVINSTG logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVSIO07.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVSIO07: *parameters***

### **Explanation**

As the parameters in module KLVINSTG are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVSIO10: CONTROL BLOCK ERROR DURING INITIALIZATION**

### **Explanation**

An internal processing error occurred during storage isolation processing.

### **System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO11: INVALID STORAGE CLASS****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO20: CONTROL BLOCK ERROR DURING TERMINATION****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO21: LOGIC ERROR DURING TERMINATE REQUEST****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

## **KLVSIO22: INVALID STORAGE CLASS ON TERMINATE REQUEST**

### **Explanation**

An internal processing error occurred during storage isolation processing.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ABEND

## **KLVSIO30: CONTROL BLOCK ERROR DURING GET**

### **Explanation**

An internal processing error occurred during storage isolation processing.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ABEND

## **KLVSIO31: INVALID STORAGE CLASS DURING GET**

### **Explanation**

An internal processing error occurred during storage isolation processing.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ABEND

## **KLVSIO32: ZERO LENGTH STORAGE REQUEST**

### **Explanation**

A storage block with a length of zero was requested.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO33: STORAGE REQUEST LIMIT EXCEEDED****Explanation**

A storage block with a length that exceeded the limit was requested.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO40: CONTROL BLOCK ERROR DURING FREE****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO41: ZERO ADDRESS ON FREE REQUEST****Explanation**

A request to free a storage block at address zero was encountered.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO42: INVALID STORAGE AREA ON FREE REQUEST****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO43: STORAGE INTEGRITY ERROR****Explanation**

An integrity error occurred during an attempt to free storage. A probable storage overlay has occurred.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO44: STORAGE OVERLAP DETECTED****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVSIO50: CONTROL BLOCK ERROR DURING USE/DROP****Explanation**

An internal processing error occurred during storage isolation processing.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

## **KLVSIO51: LOGIC ERROR DURING USE/DROP**

### **Explanation**

An internal processing error occurred during storage isolation processing.

### **System action**

For problem determination, a dump is generated with a user abend code.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ABEND

## **KLVSP001: \$SPS INVOCATION OR INTERNAL ERROR**

### **Explanation**

An TMS:Engine processing routine detected an invalid request.

### **System action**

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file of the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVSP002: \$SPS STRING LENGTH INVALID**

### **Explanation**

An TMS:Engine processing routine detected an invalid parameter.

### **System action**

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVSQ000: QUIESCE MODE *state* FOR *type***

### **Explanation**

This message indicates either a change in one of the possible storage quiesce values or that a quiesce value is still active. This message will appear when a quiesce mode changes or when the STGMON interval forces the message to appear. Possible state values:

- IS IN EFFECT

- HAS BEEN ENTERED
- HAS BEEN RELEASED

Possible value types:

- FREE PRIMARY STORAGE
- CARVED PRIMARY STORAGE
- FREE EXTENDED STORAGE
- CARVED EXTENDED STORAGE

#### **System action**

None.

#### **User response**

If a quiesce mode condition persists, contact your systems administrator, who will contact your product administrator. The systems programmer should review the TMS:Engine storage use in order to determine what actions should take place.

#### **Message Type**

ALERT, WARNING

### **KLVS001: SUBSYSTEM *name* ALREADY ACTIVE**

#### **Explanation**

A name *name* that was already active was used to initialize the TMS:Engine subsystem interface.

#### **System action**

TMS:Engine terminates.

#### **User response**

Look in member KLVINSSI in RKANPAR and verify the subsystem name.

#### **Message Type**

ALERT

### **KLVS002: SUBSYSTEM *name* INITIALIZED: SSCVT(*addr*)**

#### **Explanation**

The TMS:Engine subsystem interface name with SSCVT address *addr* was successfully initialized.

#### **System action**

None.

#### **User response**

None.

#### **Message Type**

INFO

### **KLVS003: SUBSYSTEM *name* UNABLE TO LOAD KLVSSREQ**

#### **Explanation**

TMS:Engine was unable to initialize subsystem interface name. Module KLVSSREQ could not be loaded.

**System action**

TMS:Engine terminates.

**User response**

Look for messages in the KLVCMnnn format to determine a more specific reason the module could not be loaded.

**Message Type**

ALERT

**KLVSS004: SUBSYSTEM *name* DUPLICATED****Explanation**

TMS:Engine found a duplicate subsystem name *name*.

**System action**

TMS:Engine terminates.

**User response**

Look in member KLVINSSI in RKANPAR to locate the duplicate subsystem name.

**Message Type**

ALERT

**KLVSS005: SUBSYSTEM *name* SUCCESSFULLY INSTALLED****Explanation**

The TMS:Engine subsystem interface name was successfully installed.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVSS006: KLVINSSI RKANPAR PARAMETERS:****Explanation**

Module KLVINSSI logs its start-up parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVSS006.

**System action**

None.

**User response**

None.

**Message Type**

LOG

## **KLVSS007: *parameters***

### **Explanation**

As the parameters in module KLVINSSI are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVST001: TMS/Engine INITIALIZATION ERROR(S), ABEND U0012**

### **Explanation**

One or more errors were detected during TMS:Engine start-up.

### **System action**

TMS:Engine terminates with a U0012 abend. Other KLVSTnnn messages precede this one and identify the error(s).

### **User response**

Examine the TMS:Engine and z/OS® logs to determine the error(s) that were detected, take corrective action, and restart TMS:Engine.

### **Message Type**

ALERT

## **KLVST002: TSO OPTION INVALID FOR NON-TSO ADDRESS SPACE**

### **Explanation**

The start-up parameter TSO was specified as Y (for yes), but TMS:Engine is not executing in a TSO address space.

### **System action**

TMS:Engine terminates.

### **User response**

Correct the TSO parameter and retry.

### **Message Type**

ALERT

## **KLVST003: INVALID PARMLIST PARAMETER - *text***

### **Explanation**

A syntax error was detected by TMS:Engine in the parameter list specified by the PARM= keyword on the z/OS® EXEC JCL statement. *text* is the text at or near the point where the error was found.

**System action**

TMS:Engine terminates with a U0012abend.

**User response**

Correct the indicated area of text and restart TMS:Engine.

**Message Type**

ALERT

**KLVST004: INVALID RKLVIN PARAMETER - *text*****Explanation**

A syntax error was detected by TMS:Engine in the RKLVIN start up parameters. *text* is the text at or near the point where the error was found.

**System action**

TMS:Engine terminates with a U0012abend.

**User response**

Correct the indicated area of text and restart TMS:Engine.

**Message Type**

ALERT

**KLVST005: MVS™ JOBSTEP AUTHORIZATION REQUIRED****Explanation**

The initialization parameter SWAP=N was specified, but the job step was not authorized.

**System action**

TMS:Engine terminates.

**User response**

If the SWAP=N parameter is to be used, the job step must be authorized.

**Message Type**

ALERT

**KLVST006: MVS/XA™ EXECUTION ENVIRONMENT REQUIRED****Explanation**

AMODE31(YES) was specified as an initialization parameter but TMS:Engine is not running on an MVS/XA™ or MVS/ESA™ host.

**System action**

TMS:Engine terminates.

**User response**

None.

**Message Type**

ALERT

## **KLVST007: BLDVRP FAILED FOR VSAM LSR BUFFER POOL, RC=*rc***

### **Explanation**

A BLDVRP macro was issued to allocate a VSAM local shared resource buffer pool and ended with a non-zero return code, *rc*. The two most likely causes are:

1. Insufficient main storage to satisfy the request.
2. A previously issued BLDVRP was issued without a corresponding DLVRP in the TMS:Engine address space. This typically occurs when TMS:Engine is running in a TSO address space and has previously abended in the current TSO session.

### **System action**

TMS:Engine terminates.

### **User response**

Refer to the IBM® VSAM or DFP manual that describes the BLDVRP macro for the meaning of *rc*. For the two most likely causes:

1. Adjust the main storage allocation parameters or LSRPOOL values or both and restart the TMS:Engine address space.
2. Start TMS:Engine in a fresh address space.

### **Message Type**

ALERT

## **KLVST008: PRIMARY MAIN STORAGE UNAVAILABLE**

### **Explanation**

A variable length GETMAIN could not be satisfied. The MINIMUM(*nnn*,*P*) start-up parameter regulates the minimum value that will satisfy the GETMAIN request. This refers to below the line storage.

### **System action**

TMS:Engine terminates.

### **User response**

Adjust the MINIMUM parameter and retry.

### **Message Type**

ALERT

## **KLVST009: FREEMAIN TYPE=VC FAILED**

### **Explanation**

A FREEMAIN that was issued for a previously allocated block of main storage has failed.

### **System action**

TMS:Engine terminates.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ALERT

## **KLVST010: PRIMARY RESERVED MAIN STORAGE UNAVAILABLE**

### **Explanation**

Insufficient main storage exists to satisfy the requirements for the start-up parameter RESERVE(nnn,P). This message refers to below the line storage.

### **System action**

TMS:Engine terminates.

### **User response**

Adjust the storage allocation parameters, and retry.

### **Message Type**

ALERT

## **KLVST011: PRIMARY STORAGE NOT REALLOCATED**

### **Explanation**

A GETMAIN macro instruction failed.

### **System action**

TMS:Engine terminates.

### **User response**

Retry the start-up procedure.

### **Message Type**

ALERT

## **KLVST012: EXTENDED MAIN STORAGE UNAVAILABLE**

### **Explanation**

A variable length GETMAIN could not be satisfied. The MINIMUM(nnn,X) start-up parameter regulates the minimum value that will satisfy the GETMAIN request. This message refers to above the line storage.

### **System action**

TMS:Engine terminates.

### **User response**

Adjust the MINIMUM parameter, and retry.

### **Message Type**

ALERT

## **KLVST013: EXTENDED RESERVED MAIN STORAGE UNAVAILABLE**

### **Explanation**

Insufficient main storage exists to satisfy the requirements for the start-up parameter RESERVE(nnn,X). This message refers to above the line storage.

### **System action**

TMS:Engine terminates.

**User response**

Adjust the storage allocation parameters, and retry.

**Message Type**

ALERT

**KLVST014: INVALID TRACE SPECIFICATION****Explanation**

The start-up parameter TRACE is invalid. Possible errors are:

- The value was less than 2.
- The value caused the trace table to use more than one half of the free storage area.

**System action**

TMS:Engine terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

ALERT

**KLVST015: TRACE TABLE STORAGE UNAVAILABLE****Explanation**

Insufficient main storage exists for the allocation of the TMS:Engine internal trace table.

**System action**

TMS:Engine terminates.

**User response**

Increase the MINIMUM parameter, and retry.

**Message Type**

ALERT

**KLVST016: INVALID EVENT SPECIFICATION****Explanation**

The start-up parameter EVENT was invalid. Some possible causes are:

- The value was less than 2.
- The value was greater than one fourth of the free storage area.

**System action**

TMS:Engine terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

ALERT

## **KLVST017: EVENT TABLE STORAGE UNAVAILABLE**

### **Explanation**

Insufficient main storage exists for the allocation of the TMS:Engine event hashing table.

### **System action**

TMS:Engine terminates.

### **User response**

Increase the MINIMUM parameter and retry.

### **Message Type**

ALERT

## **KLVST018: UNABLE TO OPEN RKLVLOG DATA SET**

### **Explanation**

An OPEN macro failed for ddname RKLVLOG, probably because the DD is missing in the startup procedure KLV.

### **System action**

TMS:Engine terminates.

### **User response**

This message will be accompanied by z/OS® messages indicating the reason the data set could not be opened.

### **Message Type**

ALERT

## **KLVST019: UNABLE TO OPEN RKLVSnap DATA SET**

### **Explanation**

An OPEN macro failed for ddname RKLVSnap, probably because the DD is missing in the startup procedure KLV.

### **System action**

TMS:Engine terminates.

### **User response**

This message will be accompanied by z/OS® messages indicating the reason the data set could not be opened.

### **Message Type**

ALERT

## **KLVST020: LIMIT/GRANULE OPTION SPECIFICATION ERROR**

### **Explanation**

The value specified for LIMIT was not greater than the value specified for GRANULE.

### **System action**

TMS:Engine terminates.

**User response**

If this error occurs while running CL/SUPERSESSION®, correct LIMIT value and retry. If this error occurs while running any other IBM® Tivoli® product, contact IBM® Software Support.

**Message Type**

ALERT

**KLVST021: LOG BUFFER STORAGE UNAVAILABLE****Explanation**

This error can be caused by either of the following:

- The startup parameter MINIMUM is too small.
- The startup parameters LOGBLOCK and LOGBUFS are too large.

**System action**

TMS:Engine terminates.

**User response**

Adjust the appropriate start-up parameters and retry.

**Message Type**

ALERT

**KLVST022: RKLVLLOG DCB STORAGE UNAVAILABLE****Explanation**

Insufficient main storage exists for the allocation of the RKLVLLOG.

**System action**

TMS:Engine terminates.

**User response**

Adjust the storage allocation parameters and retry.

**Message Type**

ALERT

**KLVST023: RKLVSnap DCB STORAGE UNAVAILABLE****Explanation**

Insufficient main storage exists for the allocation of the RKLVSnap DCB.

**System action**

TMS:Engine terminates.

**User response**

Adjust the storage allocation parameters and retry.

**Message Type**

ALERT

## KLVS024: FREE STORAGE LIST UNAVAILABLE

### Explanation

TMS:Engine was unable to allocate the free storage list because the MINIMUM parameter is too small.

### System action

TMS:Engine terminates.

### User response

Adjust the storage allocation parameters and retry.

### Message Type

ALERT

## KLVS025: UNABLE TO IDENTIFY SUBTASK ENTRYPOINT

### Explanation

The OS IDENTIFY macro issued to identify an entry point to initialize the TMS:Engine dispatcher did not complete successfully.

### System action

TMS:Engine terminates.

### User response

Contact IBM® Software Support.

### Message Type

ALERT

## KLVS026: *modname concat [address] module info* |TRANSIENT |ALREADY RESIDENT |RELOCATION ERROR |BLDL ERROR [COMMAND=*cmd* |RESIDENT] |CLASS=*class* [,DEFERRED]]

### Explanation

During TMS:Engine start-up, this message displays the attributes and status of each module in the TMS:Engine load library. Fields of interest are the module name *modname*, the relative concatenation number *concat*, and the module information field *module info*. TRANSIENT refers to modules that are not loaded at this time. DEFERRED refers to modules that are not considered to be transient but will be loaded at a later time. Any errors detected are also displayed as ALREADY RESIDENT|RELOCATION ERROR|BLDL ERROR.

**Note:** In case you are parsing the messages based on columns, note that the message strings have changed

### System action

None.

### User response

None, unless error messages ALREADY RESIDENT|RELOCATION ERROR|BLDL ERROR are displayed. If the cause of the error cannot be attributed to a user modification, contact IBM® Software Support.

### Message Type

LOG

## **KLVST027: REQUIRED POINTER(S) NOT RESOLVED, *hex* IS THE OFFSET**

### **Explanation**

One of the pointers required for TMS:Engine execution could not be resolved, probably due to a module that is missing from the TMS:Engine load library.

### **System action**

TMS:Engine terminates.

### **User response**

Cross reference all the modules in the execution library with the modules in the distribution library to determine if a module is missing. If the error cannot be attributed to an installation error, contact IBM® Software Support with the hex value.

### **Message Type**

ALERT

## **KLVST028: LOAD LIBRARY *concat volser dsname***

### **Explanation**

These messages are logged at start-up time to display the data set names and related information associated with the RKANMODL DD statement. Fields of interest are the concatenation number *concat*, the volser *volser* and the data set name *dsname*.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVST029: INVALID VALUE FOR SLOPE PARAMETER**

### **Explanation**

The SLOPE parameter specified on initialization parameter SLOPE is invalid.

### **System action**

TMS:Engine terminates.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ALERT

## **KLVST030: UNABLE TO DETERMINE CPU IDENTIFICATION**

### **Explanation**

TMS:Engine was unable to determine the CPU ID of the machine it is currently running on.

**System action**

TMS:Engine terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

ALERT

**KLVS032: PERCENTAGE IS INVALID IN QUIESCE PARAMETER****Explanation**

A QUIESCE parameter in the file contains an invalid percentage. The percentage value must be in the range 0-100.

**System action**

The message is displayed and initialization fails.

**User response**

Correct the QUIESCE parameter in error and restart.

**Message Type**

ALERT

**KLVS033: STGMON INTERVAL IS INVALID IN STGMON PARAMETER****Explanation**

The STGMON interval in the file contains an invalid time interval. The value should be in the range 0-120.

**System action**

The message is displayed and initialization fails.

**User response**

Correct the STGMON interval and restart.

**Message Type**

ALERT

**KLVS034: FREE/CARVED INDICATOR IS INVALID IN QUIESCE PARAMETER****Explanation**

A QUIESCE parameter in the KLVSYSIN file contains an invalid storage type indicator. The value should be either **C** for carved storage or **F** for free storage.

**System action**

The message is displayed and initialization fails.

**User response**

Correct the QUIESCE parameter in error and restart.

**Message Type**

ALERT

## **KLVST035: INSTALLING ADDITIONAL ENTRYPOINT, |TRANSIENT |ALREADY RESIDENT |RELOCATION ERROR |BLDL ERROR [COMMAND=cmd |RESIDENT]**

### **Explanation**

An additional entry point for the module listed in message KLVST026, preceding this message, has been processed.

### **System action**

None.

### **User response**

Refer to KLVST026.

### **Message Type**

LOG

## **KLVST036: AN ELEMENT OF COMPONENT CVT(*name*) IS *module***

### **Explanation**

The module *module*, just processed and identified by the preceding KLVST026 message, is part of a group of application modules.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVST037: COMPONENT VECTOR TABLE INITIALIZED(*name*) |BEGIN VECTORS DIFFER FROM PREVIOUS ELEMENTS |GSA OFFSET DIFFERS FROM PREVIOUS ELEMENTS |GSA VECTOR OFFSET USED -ERROR- MODULE ID(*name*)(*module*) | VECTOR TABLE OFFSET ALREADY USED(*module*)(*entry*) |REQUIRED POINTER MISSING FOR CVT(*name*), AT OFFSET=*hex***

### **Explanation**

A group of application modules has been successfully initialized (first message), or an error has been detected (remaining messages).

### **System action**

For the first message, none. For the remaining messages, TMS:Engine continues processing modules, but will terminate later.

### **User response**

For the first message, none. For the remaining messages, contact IBM® Software Support.

### **Message Type**

LOG

## **KLVST038: STEPLIB AUTHORIZATION REQUIRED**

### **Explanation**

One or more products running in the TMS:Engine address space require the STEPLIB DD to be APF-authorized.

### **System action**

TMS:Engine terminates with a U0012 abend.

### **User response**

APF-authorize the data sets in the STEPLIB concatenation and restart TMS:Engine.

### **Message Type**

ALERT

## **KLVST039: GCSDISKS STORAGE UNAVAILABLE**

### **Explanation**

TMS:Engine initialization could not obtain storage for the GCSDISKS keyword.

### **System action**

TMS:Engine terminates with a U0012 abend.

### **User response**

Adjust the storage allocation parameters and restart TMS:Engine.

### **Message Type**

ALERT

## **KLVST040: WARNING: NO STORAGE FOR SOME LSR HIPERSPACE POOLS**

### **Explanation**

A BLDVRP macro was issued to allocate a VSAM local shared resource buffer pool in Hiperspace™?, but there was not enough Hiperspace™? storage (BLDVRP returned X'2C').

### **System action**

TMS:Engine continues, using virtual storage for the buffer pool(s) that could not be allocated in Hiperspace™.

### **User response**

Refer to the *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* for the BLDVRP return code X'2C'.

### **Message Type**

LOG

## **KLVST041: ERROR INITIALIZING SYSDUMP DATA SET**

### **Explanation**

An OPEN macro was issued to initialize the SYSDUMP data set, which produced a non-zero return code. Refer to the accompanying IEC141I Fault Analyzer for z/OS® message for details on the OPEN failure.

### **System action**

TMS:Engine terminates with a U0012 abend.

**User response**

Refer to *MVS/ESA™ Planning: Problem Determination and Recovery* (GC28-1629) for details on pre-allocating SYSMDUMP data sets.

**Message Type**

ALERT

**KLVST042: SPLEVEL NOT MATCHED, ASSUMING *assume*. SYSTEM SPLEVEL DETECTED=*level*****Explanation**

TMS:Engine was unable to match the SP™ level of the current operating system (*level*) with an entry in its internal table of supported operating systems.

**System action**

TMS:Engine assumes the SP™ level is *assume*. Execution continues.

**User response**

Contact IBM® Software Support with the contents of this message.

**Message Type**

LOG

**KLVST043: UNABLE TO OPEN RKANPAR DATA SET****Explanation**

An OPEN macro was issued to initialize the RKANPAR data set, which produced a non-zero return code. Refer to the accompanying IEC141I message for details on the OPEN failure.

**System action**

TMS:Engine terminates with a U0012 abend.

**User response**

Correct the problem and restart TMS:Engine.

**Message Type**

ALERT

**KLVST044: LOADLIST MEMBER NOT FOUND IN RKANPAR DATA SET (*membername*)****Explanation**

A FIND macro issued to locate the named LOADLIST member in the RKANPAR data set produced a failing return code.

**System action**

TMS:Engine terminates with a U0012 abend.

**User response**

Specify a valid member name and restart TMS:Engine.

**Message Type**

ALERT

**KLVTB001: TABLE DATABASE INITIAL LOAD COMPLETE: DSNAME(*dsn*)****Explanation**

The table database has been successfully loaded from the indicated data set.

**System action**

Processing continues.

**User response**

None.

**Message Type**

INFO

**KLVTB002: TABLE DATABASE *dsname* INITIAL LOAD *date time* ON *sysid* LAST ACCESSED *date time* ON *date sysid*****Explanation**

TMS:Engine table initialization has successfully opened the tables database (*dsname*). The date, time, and SMF system ID when the database was initially formatted by TMS:Engine, and the last date, time and SMF system ID when the database was last accessed by TMS:Engine are also reported.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVTB003: UNABLE TO ALLOCATE TABLE CLUSTER: DSNAME(*dsname* )****Explanation**

TMS:Engine table initialization could not allocate the tables database (*dsname*).

**System action**

TMS:Engine initialization is terminated.

**User response**

Examine the z/OS® console log or the TMS:Engine RKLVLLOG for KLVDAnnn messages, which will explain the allocation problem. Correct the error and restart TMS:Engine.

**Message Type**

ERROR

## **KLVTB004: *keyword*: 'errormessage' RKANPAR(KLVINTB)**

### **Explanation**

The table initialization member (KLVINTB in RKANPAR) has an invalid keyword *keyword* in it.

### **System action**

TMS:Engine initialization is terminated.

### **User response**

Examine *errormessage* and member KLVINTB in RKANPAR for specific information about the error, and correct it.

### **Message Type**

ERROR

## **KLVTB005: UNABLE TO OPEN TABLE CLUSTER: DSNAME(*dsname*) DDNAME(*ddname*) R15(*r15*) ACBERFLG(*erflg*)**

### **Explanation**

TMS:Engine tables initialization was unable to open the tables database (*dsname*) allocated to *ddname*.

### **System action**

TMS:Engine initialization is terminated.

### **User response**

Refer to the *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* for the meaning of *r15* and *erflg* for OPEN errors. Correct the problem and restart TMS:Engine.

### **Message Type**

ERROR

## **KLVTB006: NO LSR POOL ALLOCATED**

### **Explanation**

TMS:Engine tables initialization was unable to process the tables database because no VSAM LSR environment was established.

### **System action**

TMS:Engine initialization is terminated.

### **User response**

Examine the z/OS® console log or the TMS:Engine RKLVLLOG for KLVVSnnn messages, which will explain the VSAM problem. Correct the error and restart TMS:Engine.

### **Message Type**

ERROR

## **KLVTB007: UNABLE TO ACCESS TABLE CLUSTER**

### **Explanation**

TMS:Engine tables initialization was unable to process the tables database because it could not establish a VSAM request against the cluster.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB008: UNABLE TO READ TABLE DATABASE CONTROL RECORD****Explanation**

TMS:Engine tables initialization could not read information it needs to process the tables database.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB009: UNABLE TO WRITE TABLE DATABASE CONTROL RECORD****Explanation**

TMS:Engine tables initialization could not update the tables database.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB010: SHOWCB FIELDS = (ACBLEN,RPLLEN) ERROR: R15(r15) R0(r0)****Explanation**

TMS:Engine tables initialization could not format the tables database because the VSAM SHOWCB macro failed.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB011: UNABLE TO INITIALIZE TABLE CLUSTER DSNAME(*dsname*)  
R15(*value*) DCR(*hex*)****Explanation**

TMS:Engine tables initialization could not format the tables database because the VSAM OPEN macro failed.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB012: UNABLE TO LOAD TABLE CLUSTER: DSNAME(*dsname*) R15(*value*)  
RPLERRCD(*value*) DCR(*hex*)****Explanation**

TMS:Engine tables initialization could not format the tables database because the VSAM PUT macro failed.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB013: GENCB MACRO FAILURE R15(*value*) R0(*value*)****Explanation**

TMS:Engine tables initialization could not format the tables database because the VSAM GENCB macro failed.

**System action**

TMS:Engine initialization is terminated.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

## **KLVTB014: INVALID KEY LENGTH IN TABLE DATABASE: SUPPLIED(*actual*) EXPECTED(*valid*)**

### **Explanation**

The TMS:Engine tables database is incorrectly allocated. *valid* is the required VSAM cluster key length; *actual* is the key length found on the actual cluster.

### **System action**

TMS:Engine initialization is terminated.

### **User response**

Reallocate the tables database cluster with the proper key and control interval sizes. Then restart TMS:Engine.

### **Message Type**

ERROR

## **KLVTB015: INVALID RECORD LENGTH IN TABLE DATABASE: SUPPLIED(*actual*) EXPECTED(*valid*)**

### **Explanation**

The TMS:Engine tables database is incorrectly allocated. *valid* is the minimum VSAM cluster record length; *actual* is the record length found on the cluster.

### **System action**

TMS:Engine initialization is terminated.

### **User response**

Reallocate the tables database cluster with the proper key and control interval sizes. Then restart TMS:Engine.

### **Message Type**

ERROR

## **KLVTB016: NO TABLE DATABASE SPECIFIED - PERMANENT TABLES NOT SUPPORTED**

### **Explanation**

The TMS:Engine initialization member (KLVINTB in RKANPAR) is either not present or is empty.

### **System action**

TMS:Engine initialization continues, but no permanent table services are available. These include TBOPEN, TBSAVE, and TBLIST. Attempts to use these will result in return codes of 8, 12 or 20 or all three from the associated functions.

### **User response**

If permanent table services are desired, allocate a tables database, create or update the KLVINTB member in RKANPAR. Then restart TMS:Engine.

### **Message Type**

WARNING

## **KLVTB017: *keyword(value)* IS OUT OF RANGE (*min-max*); DEFAULTS TO *def***

### **Explanation**

*keyword* in the KLVINTB member of RKANPAR was specified with a value that is too small (*min*) or too large (*max*).

### **System action**

The default value, *def*, will be used. TMS:Engine initialization continues.

### **User response**

Correct the keyword value. If the default value is unacceptable, recycle TMS:Engine.

### **Message Type**

WARNING

## **KLVTB018: MINIMUM/MAXIMUM TUBPOOL CONFLICT; MAXIMUM SET TO *val***

### **Explanation**

The MINIMUMTUBPOOL value in the KLVINTB member of RKANPAR is not less than the MAXIMUMTUBPOOL value.

### **System action**

The MINIMUMTUBPOOL value, plus 8, will be used (*val*). TMS:Engine initialization continues.

### **User response**

Correct the MINIMUMTUBPOOL or MAXIMUMTUBPOOL value. If the default value is unacceptable, recycle TMS:Engine.

### **Message Type**

WARNING

## **KLVTB019: *keyword(value)* IS INVALID; DEFAULTS TO *def***

### **Explanation**

*keyword* in the KLVINTB member of RKANPAR was specified with a value that is not a valid choice.

### **System action**

The default value, *def*, will be used. TMS:Engine initialization continues.

### **User response**

Correct the keyword value. If the default value is unacceptable, recycle TMS:Engine.

### **Message Type**

WARNING

## **KLVTB020: TABLE ERASE FAILED, RC=*rc***

### **Explanation**

An internal request to remove a permanent table from the tables database was not successful.

### **System action**

The request terminates.

**User response**

Contact IBM® Software Support.

**Message Type**

REPLY

**KLVTB020\_d: TABLE ERASED****Explanation**

An internal request to remove a permanent table from the tables database was successful.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVTB021: TABLE CONVERTED: *table*****Explanation**

The TDB CONVERT command has successfully converted table from Version 145 format to Version 146 format.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVTB022: UNABLE TO ALLOCATE TABLE CLUSTER: DSNAME(*dsname*)****Explanation**

The TDB CONVERT command could not allocate the Version 145 tables database.

**System action**

The TDB CONVERT command ends.

**User response**

Examine the z/OS® console log or the TMS:Engine RKLVLLOG for KLVDAnnn messages, which will explain the allocation problem. Correct the error. Then reissue the TDB CONVERT command.

**Message Type**

WARNING

### **KLVTB023: *keyword: errormessage*' COMMAND(TDB)**

#### **Explanation**

The TDB command was issued with an invalid keyword *keyword*.

#### **System action**

The TDB command ends.

#### **User response**

Examine *errormessage* for specific information about the error and correct it.

#### **Message Type**

ERROR

### **KLVTB024: UNABLE TO OPEN TABLE CLUSTER: DSNAME(*dsname*) DDNAME(*ddname*) R15(*r15*) ACBERFLG(*erflg*)**

#### **Explanation**

The TDB CONVERT command could not open the Version 145 tables database (*dsname*) allocated to *ddname*.

#### **System action**

The TDB CONVERT command ends.

#### **User response**

Refer to the *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* for the meaning of *r15* and *erflg* for OPEN errors. Correct the problem and reissue the TDB CONVERT command.

#### **Message Type**

ERROR

### **KLVTB025: UNABLE TO INITIALIZE DIALOG MANAGER**

#### **Explanation**

The TDB CONVERT command could not initialize the dialog services function of TMS:Engine for its processing.

#### **System action**

The TDB CONVERT command ends.

#### **User response**

Keep the TMS:Engine run sheets and dump files, as well as the z/OS® system log. Then contact IBM® Software Support.

#### **Message Type**

ERROR

### **KLVTB026: UNABLE TO ACCESS TABLE CLUSTER**

#### **Explanation**

The TDB CONVERT command could not OPEN the Version 145 tables database for processing.

#### **System action**

The TDB CONVERT command ends.

**User response**

Keep the TMS:Engine run sheets and dump files, as well as the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB027: INVALID KEY LENGTH IN TABLE DATABASE: SUPPLIED(*actual*) EXPECTED(*valid*)****Explanation**

The Version 145 tables database specified on a TDB CONVERT command does not have the correct key length (*valid*).

**System action**

The TDB CONVERT command ends.

**User response**

Reissue the TDB CONVERT command with the correct Basic Table Services tables database VSAM cluster name.

**Message Type**

ERROR

**KLVTB028: INVALID SUBCOMMAND: *keyword*****Explanation**

An invalid request (*keyword*) was made on the TDB command.

**System action**

The TDB command ends.

**User response**

Contact IBM® Software Support.

**Message Type**

ERROR

**KLVTB029: *action* TABLE REQUEST FAILED: RC(*rc*) TABLE(*table*)****Explanation**

The tables service function action against table failed with the indicated return code.

**System action**

The TDB CONVERT command ends.

**User response**

Some tables may have been successfully converted; refer to TMS:Engine RKLVLLOG for KLVTB021 messages. Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ERROR

## **KLVTB030: REQUEST FAILED - TABLE(*table*)**

### **Explanation**

An internal tables request failed.

### **System action**

The request terminates.

### **User response**

Contact IBM® Software Support.

### **Message Type**

ERROR

## **KLVTB031: BLOCK ERROR: TABLE(*table*) SEQUENCE(*nnn*) RECORD(*hex*)**

### **Explanation**

While processing a tables request, the TMS:Engine tables manager detected an invalid block in the tables database for *table*. *nnn* is the record sequence number for the table that contains the block. *hex* is the block that was in error, followed by the remainder of the VSAM record.

### **System action**

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035), or will use the partially loaded table (message KLVTB034).

### **User response**

None.

### **Message Type**

LOG

## **KLVTB032: SORT ERROR: TABLE(*table*)**

### **Explanation**

While processing a tables request, the TMS:Engine tables manager detected invalid sort information in the tables database for *table*.

### **System action**

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035), or will use the partially loaded table (message KLVTB034).

### **User response**

None.

### **Message Type**

LOG

## **KLVTB033: ROW ERROR: TABLE(*table*) READ(*mmm*) EXPECTED(*nnn*)**

### **Explanation**

While processing a tables request, the TMS:Engine tables manager detected a structural error in the tables database for *table*. *mmm* is the number of rows successfully processed; *nnn* is the number of rows that were expected.

**System action**

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035), or will use the partially loaded table (message KLVTB034).

**User response**

None.

**Message Type**

LOG

**KLVTB034: RECOVERED [OLDER COPY] [WITH DATA ERRORS]: TABLE(*table*)****Explanation**

While processing a tables request, the TMS:Engine tables manager detected an error in the tables database for table. If the recovery was performed by loading an older copy of the table, the phrase OLDER COPY appears. If not all of the data in the table could be recovered, the phrase WITH DATA ERRORS appears. Previous KLVTB0nn message(s) should be present that describe the original error.

**System action**

The request continues as if no error had occurred.

**User response**

None.

**Notes®**

This error may occur when the table was not completely written to the database at some earlier point, or when a VSAM I/O error occurs while reading the table.

**Message Type**

LOG

**KLVTB035: RECOVERING OLDER COPY: TABLE(*table*)****Explanation**

While processing a tables request, the TMS:Engine tables manager detected an error in the tables database for table and will attempt to recover using an earlier version of the table. Previous KLVTB0nn messages should be present that describe the original error.

**System action**

The invalid table is erased from the tables database to prevent any future errors, and the request is retried with the earlier version of the table.

**User response**

None.

**Message Type**

LOG

**KLVTB036: RECOVERY FAILED: TABLE(*table*)****Explanation**

While processing a tables request, the TMS:Engine tables manager detected an error in the tables database for table. If there was an older copy of the table on the database, the tables manager attempted to recover it, but

that copy also had errors. These errors were severe enough that no usable information could be recovered. Previous KLVTB0nn messages should be present that describe the original error.

### System action

The request is terminated with a nonzero return code. The invalid table remains on the database.

### User response

Keep the TMS:Engine run sheets, dump files, this message, the z/OS® system log, and a copy of your tables database. Then contact IBM® Software Support. You must recreate the table and save it to the database after the diagnostic information is obtained.

### Message Type

LOG

## KLVTB037: WRITE ERROR: TABLE(*table*) RPLFDBWD(*feedback*) SEQUENCE(*nnn*) RECORD(*hex*)

### Explanation

The TMS:Engine tables manager received a VSAM error while updating the tables database for *table*. *feedback* is the RPL feedback word from the failing request. *nnn* is the record sequence number for the table that was being written. *hex* is the VSAM record contents.

### System action

The request is terminated with a nonzero return code. The table remains open.

### User response

Refer to the *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets* manual for the meaning of the values in *feedback*. If the problem is not apparent, retain the TMS:Engine run sheets, dump files, this message, the z/OS® system log, and a copy of your tables database. Then contact IBM® Software Support.

### Message Type

LOG

## KLVTB038: SYNC ERROR: TABLE(*table*) EXPECTED(*edata*) ACTUAL(*adata*) SEQUENCE(*nnn*) RECORD(*hex*)

### Explanation

While processing a tables request, the TMS:Engine tables manager detected invalid synchronization information in the tables database for *table*. A VSAM record has been read that is not part of the table being loaded. *edata* is the expected sync value; *adata* is the actual data read. *nnn* is the record sequence number for the table that contains the block. *hex* is the block that was in error, followed by the remainder of the VSAM record.

### System action

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035), or will use the partially loaded table (message KLVTB034).

### User response

None.

### Message Type

LOG

## **KLVTB039: ROW-END ERROR: TABLE(*table*) READ(*mmm*) EXPECTED(*nnn*)**

### **Explanation**

While processing a tables request, the TMS:Engine tables manager detected invalid synchronization information in the tables database for table. An internal end-of-row marker is missing. *mmm* is the number of rows successfully processed; *nnn* is the number of rows that were expected.

### **System action**

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035), or will use the partially loaded table (message KLVTB034).

### **User response**

None.

### **Message Type**

LOG

## **KLVTB040: KLVTBMGR LOGIC ERROR**

### **Explanation**

The TMS:Engine tables manager detected an invalid condition while performing a request.

### **System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file of the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVTB041: KLVTBMGR INVALID TABLE DELETE POINTER**

### **Explanation**

The TMS:Engine tables manager detected an invalid condition while performing a request.

### **System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVTB042: FREE \$TUB INTEGRITY CHECK FAILED**

### **Explanation**

The TMS:Engine tables manager detected a problem with an internal control block while performing a request.

**System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

**User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

REPLY

**KLVTB043: UNSUPPORTED/INVALID \$DMTB REQUEST RECEIVED****Explanation**

The TMS:Engine tables manager was passed an invalid request.

**System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

**User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

REPLY

**KLVTB045: RESIDUAL RECORD DELETED: TABLE(*table*) SEQUENCE(*nnn*)****Explanation**

The TMS:Engine tables manager detected an error while writing table to the tables database. Data from an older copy of the table was not completely removed during an earlier save request. *nnn* is the record sequence number of the invalid data record for table.

**System action**

The tables manager deletes the old, invalid records and continues saving table. This message is issued for each record that is deleted.

**User response**

None.

**Message Type**

LOG

**KLVTB046: CHAINING ERROR: TABLE(*table*) SEQUENCE(*nnn*) RECORD(*hex*)****Explanation**

The TMS:Engine tables manager detected an error while reading the tables database for table. A block that spans multiple VSAM records is not correct. *nnn* is the record sequence number for the table that contains the block. *hex* is the block that was in error, followed by the remainder of the VSAM record.

**System action**

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035), or will use the partially loaded table (message KLVTB034).

**User response**

None.

**Message Type**

LOG

**KLVTB047: UNEXPECTED FIELD: TABLE(*table*) SEQUENCE(*nnn*) RECORD(*hex*)****Explanation**

The TMS:Engine tables manager detected an error while reading the tables database for table. Too many variable names or sort fields have been processed. *nnn* is the record sequence number for the table that contains the block. *hex* is the block that was in error, followed by the remainder of the VSAM record.

**System action**

The tables manager will attempt to load a previous copy of the table, if one exists (message KLVTB035). If there is no alternate table, message KLVTB036 will be issued and the request terminated with a nonzero return code.

**User response**

Refer to message KLVTB036.

**Message Type**

LOG

**KLVTB048: INVALID ERASE REQUEST DETECTED****Explanation**

The TMS:Engine tables manager detected an error before erasing a record from the tables data base.

**System action**

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

**User response**

Gather the complete TMS:Engine logs, dump files, this message, and the z/OS® system log. For detailed instructions on resolving this issue, search for KLVTB048 at the IBM Support Portal.

**Message Type**

REPLY

**KLVTB049: INVALID RLB CHAIN DETECTED****Explanation**

The TMS:Engine tables manager detected an error while attempting to lock a row from the tables data base.

**System action**

The request is terminated with a U0100 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

**User response**

Keep the TMS:Engine run sheets, dump files, and this message. Then contact IBM® Software Support.

**Message Type**

REPLY

## **KLVTB051: UNSUPPORTED/INVALID \$TBHLP REQUEST RECEIVED**

### **Explanation**

The TMS:Engine tables manager was passed an invalid request.

### **System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

### **User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

### **Message Type**

REPLY

## **KLVTB052: KLVINTB RKANPAR PARAMETERS:**

### **Explanation**

Module KLVINTB logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVTB053.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVTB053: *parameters***

### **Explanation**

As the parameters in module KLVINTB are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVTI001: ITMS ENGINE TIME: *time***

### **Explanation**

The TIME command causes the TMS:Engine time to be displayed.

### **Explanation**

None.

**User response**

None.

**Message Type**

REPLY

**KLVTI002: ITMS ENGINE TIME RESET TO: *time* DATE: *date*****Explanation**

The TIME RESET command has set the TMS:Engine time and date to the system local time and date shown.

**System action**

None.

**User response**

None.

**Message Type**

REPLY, VIEW

**KLVTI201: INVALID \$STMX REQUEST DETECTED****Explanation**

An TMS:Engine timing service has been passed invalid information.

**System action**

The request is terminated with a U0200 abend, sending a dump to the RKLVSnap file or the system's dump data sets or both.

**User response**

Keep the TMS:Engine run sheets, dump files, this message, and the z/OS® system log. Then contact IBM® Software Support.

**Message Type**

ABEND

**KLVTQ101: CHANGE OF DAY PROCESSING COMPLETE: DATE *date*****Explanation**

The TMS:Engine timing services routine needed to adjust its queue due to a day change.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVTQ102: INVALID \$TRB DETECTED. \$TRB ADDR(*addr*) \$TRTIME(*time*)  
\$TRJDATE(*jdate*) \$TRETRY(*entry*) \$TRPARAM(*parm*) \$TRASSOC(*assoc*)  
\$TRINTVL(*intvl*) ASSOCVAL(*assocval*)**

**Explanation**

During the processing of an expired timer interval it was determined that the \$TRB had an invalid association vector. *addr* is the address of the \$TRB. *time* and *jdate* are the date and time that the timer request was initiated. *entry* is the address of the exit routine. *parm* is the parameter to be passed to the exit routine. *assoc* is the address of the association vector and *intvl* is the length of the interval that this \$TRB represents. *assocval* is the contents of the association vector. *assocval* will be **\*\*\*\*\*** if *assoc* is an invalid address.

**System action**

The \$TRB is freed, the \$STMR exit routine is not run, and processing continues.

**User response**

Contact IBM® Software Support.

**Message Type**

REPLY

**KLVTR001: INTERNAL TRACE STATUS:**

**Explanation**

The title for the INTERNAL TRACE STATUS display. The TRACE command displays the current trace table eligibility mask.

**System action**

None.

**User response**

None.

**Message Type**

ERROR

**KLVTR002: INVALID TRACE ID: '*arg*'**

**Explanation**

The TRACE command contains an invalid parameter *arg*.

**System action**

The command fails.

**User response**

Validate and correct the trace id *arg*, and reissue the command.

**Message Type**

ERROR

### **KLVTR003: INVALID PREFIX CHARACTER: '*arg*'**

#### **Explanation**

The TRACE command contains an invalid prefix character *arg* as one of the parameters.

#### **System action**

The command fails.

#### **User response**

Correct the invalid prefix character (it must be (+) or (-)) and reissue the command.

#### **Message Type**

ERROR

### **KLVTR004: INTERNAL TRACE FACILITY DISABLED**

#### **Explanation**

The TRACE command failed because the internal trace facility has been disabled.

#### **System action**

The command fails.

#### **Message Type**

REPLY

### **KLVTR005: *class arg***

#### **Explanation**

*class* is the trace class being reported. *arg* is ENABLED OR DISABLED.

#### **System action**

None.

#### **User response**

None.

#### **Message Type**

REPLY

### **KLVTR006: PRODUCT TRACE STATUS**

#### **Explanation**

The title line for the PRODUCT TRACE STATUS displays.

#### **System action**

None.

#### **Message Type**

ERROR

## **KLVTR007: *pr* ENABLED**

### **Explanation**

*pr* is a two character product id that is enabled for tracing.

### **System action**

None.

### **User response**

None.

### **Message Type**

REPLY

## **KLVTR008: \*\*\* END OF DATA \*\*\***

### **Explanation**

The end of the TRACE STATUS display.

### **System action**

None.

### **Message Type**

REPLY

## **KLVTR021: TRACE REQUEST REJECTED. REQUIRED ARGUMENT MISSING**

### **Explanation**

The GTRACE command was entered with the ON|OFF operand without specifying a resource to be traced.

### **System action**

The trace request is rejected.

### **User response**

Specify the resource to be traced and reissue the command.

### **Message Type**

ERROR

## **KLVTR022: TRACE REQUEST REJECTED. INVALID CLASS(*class*) SPECIFIED**

### **Explanation**

An invalid CLASS was specified. *class* is the class type specified.

### **System action**

The trace request is rejected.

### **User response**

Specify a correct CLASS and reissue the command.

### **Message Type**

ERROR

## **KLVTRO23: TRACE REQUEST REJECTED. INTERNAL TRACE FACILITY DISABLED.**

### **Explanation**

A GTRACE CLASS(INT) ON command has been issued but no internal trace table has been allocated at system startup.

### **System action**

The trace request is rejected.

### **User response**

If an internal trace is desired, specify DEBUG(Y) in the KLVSYSIN member of RKANPAR and recycle the system.

### **Message Type**

ERROR

## **KLVTRO24: TRACE TERM|ACB(*resname*) QUEUED|ENABLED|DISABLED**

### **Explanation**

The trace request for *resname* of TERM or ACB has been performed.

### **System action**

None.

### **User response**

None.

### **Message Type**

ERROR

## **KLVTRO25: TRACE REQUEST REJECTED. TERM(*resname*) NOT A PHYSICAL TERMINAL.**

### **Explanation**

The trace for *resname* of CLASS(TERM) has been requested, but the *resname* is not a physical terminal.

### **System action**

The trace request is rejected.

### **User response**

Specify CLASS(ACB), or use the VSSTRACE command to trace virtual sessions.

### **Message Type**

ERROR

## **KLVTRO26: GTF INTERFACE HAS NOT BEEN ENABLED**

### **Explanation**

A trace request has been issued for a resource but the GTF interface has not been enabled.

### **System action**

None.

**User response**

Issue the GTF ON command to enable GTF tracing.

**Message Type**

WARNING

**KLVTR027: TRACE CLASS(INT|TERM|ACB) STATUS:****Explanation**

This is the header message of the trace status display.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

**KLVTR028: TRACE REQUEST REJECTED. INVALID ARGUMENT SPECIFIED.****Explanation**

A GTRACE command is specified with an invalid resname.

**System action**

The trace request is rejected.

**User response**

Correct and reissue the command.

**Message Type**

ERROR

**KLVTR029: *class: stat*****Explanation**

This message displays the status of internal trace class *class*. *stat* is its status.

**System action**

None.

**User response**

None.

**Message Type**

REPLY

### **KLVTR031: *type(res) : stat***

#### **Explanation**

This message displays the status of resource *res*. *type* is the resource type and *stat* is its status.

#### **System action**

None.

#### **User response**

None.

#### **Message Type**

REPLY

### **KLVTR032: \*\*\* END OF TRACE STATUS \*\*\***

#### **Explanation**

This message marks the end of a section of trace status data.

#### **System action**

None.

#### **User response**

None.

#### **Message Type**

REPLY

### **KLVTS000: INVALID \$CTMR REQUEST**

#### **Explanation**

TMS:Engine encountered a problem during timer services processing.

#### **System action**

TMS:Engine terminates.

#### **User response**

Contact IBM® Software Support.

#### **Message Type**

ABEND

### **KLVTS001: TIMER ALREADY CANCELLED**

#### **Explanation**

An attempt was made to cancel a timer request that had already been cancelled.

#### **System action**

The thread is terminated.

#### **User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVT011: TIMER ASSOCIATION VECTOR REUSE****Explanation**

An attempt was made to create a timer request and the contents of the supplied association vector referenced a currently active timer request.

**System action**

The thread is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

ABEND

**KLVT000: INVALID USE OF KLV\$\$GBL BY A USEREXIT****Explanation**

Proper linkage has not been established for the user exit.

**System action**

For problem determination, a dump is generated with a user abend code.

**User response**

Review the user exit and make any necessary corrections.

**Message Type**

REPLY

**KLVL001: VSAM SERVICES NOT AVAILABLE FOR VIEWLOG****Explanation**

VIEWLOG requires VSAM support, but the TMS:Engine VSAM services routine did not initialize.

**System action**

VIEWLOG initialization ends. VIEWLOG processing is not available. TMS:Engine initialization continues.

**User response**

Review RKLVL001 for KLVVSnnn messages that will identify the VSAM problem. Correct it and restart TMS:Engine.

**Message Type**

WARNING

**KLVL002: UNABLE TO ALLOCATE VIEWLOG CLUSTER: DSNAME(*dsname*)****Explanation**

An unsuccessful attempt was made to dynamically allocate the VIEWLOG cluster.

**System action**

The VIEWLOG command is unavailable.

**User response**

Look for dynamic allocation error messages (KLVDAAnn) to determine a more specific reason the data set could not be allocated, and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL003: VIEWLOG CLUSTER INITIALIZED: DSNAME *dsn*****Explanation**

The VIEWLOG cluster *dsn* has been successfully initialized. This message is logged to create an audit trail.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVVL004: UNABLE TO REOPEN VIEWLOG CLUSTER****Explanation**

During TMS:Engine startup, an unsuccessful attempt was made to reopen the VIEWLOG cluster under LSR. This is done to get control interval access to the cluster in order to initialize the VIEWLOG environment. An error was made defining the VIEWLOG environment.

**System action**

The VIEWLOG command is unavailable.

**User response**

Contact IBM® Software Support.

**Message Type**

WARNING

**KLVVL005: UNABLE TO LOGON \*SYSVLG\* FOR VIEWLOG****Explanation**

The operator \*SYSVLG\* could not be defined.

**System action**

The VIEWLOG command is unavailable.

**User response**

Contact IBM® Software Support.

**Message Type**

WARNING

**KLVVL006: SHOWCB FIELDS=(ACBLEN,RPLLEN) ERROR: R15(*r15*) R0(*r0*)****Explanation**

A SHOWCB macro instruction issued to obtain the length of a VSAM ACB completed unsuccessfully.

**System action**

The VIEWLOG command is unavailable.

**User response**

Use the appropriate VSAM programmer's reference and the *r0* and *r15* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL007: SHOWCB FIELDS=RPLLEN ERROR: R15(*r15*) R0(*r0*)****Explanation**

A SHOWCB macro instruction issued to obtain the length of a VSAM RPL completed unsuccessfully.

**System action**

The VIEWLOG command is unavailable.

**User response**

Use the appropriate VSAM programmer's reference and the *r0* and *r15* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL008: GENCB BLK=ACB ERROR: R15(*r15*) R0(*r0*)****Explanation**

A GENCB macro instruction was issued to generate a VSAM ACB and completed unsuccessfully.

**System action**

The VIEWLOG command is unavailable.

**User response**

Use the appropriate VSAM programmer's reference and the *r0* and *r15* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL009: GENCB BLK=RPL ERROR: R15(*r15*) R0(*r0*)****Explanation**

A GENCB macro instruction was issued to generate a VSAM RPL and completed unsuccessfully.

**System action**

The VIEWLOG command is unavailable.

**User response**

Use the appropriate VSAM programmer's reference and the *r0* and *r15* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL010: UNABLE TO OPEN VIEWLOG CLUSTER: DSNAME(*dsn*)  
DDNAME(*ddname*) R15(*r15*) ACBERFLG(*acberflg*)****Explanation**

During TMS:Engine startup, an unsuccessful attempt was made to open the VIEWLOG cluster *dsn*. The cluster was probably defined improperly.

**System action**

The VIEWLOG command is unavailable.

**User response**

Use the *VSE/VSAM Programmer's Reference* (SC33-6535) and the *r15* and *acberflg* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL011: UNABLE TO LOAD VIEWLOG CLUSTER: R15(*r15*) R0(*r0*)****Explanation**

An unsuccessful attempt was made to PUT an initial record to the VIEWLOG cluster. The cluster was probably defined improperly.

**System action**

The VIEWLOG command is unavailable.

**User response**

Use the *VSE/VSAM Programmer's Reference* (SC33-6535) and the *r0* and *r15* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVL012: DISP(*value*) IS INVALID; DEFAULTS TO OLD****Explanation**

An invalid value was coded on the DISP keyword in the KLVINVLG member of RKANPAR.

**System action**

DISP(OLD) will be used. VIEWLOG and TMS:Engine initialization continues.

**User response**

Correct the keyword value. If the default value is unacceptable, recycle TMS:Engine.

**Message Type**

WARNING

**KLVL013: RKANPAR(KLVINVLG) IS EMPTY****Explanation**

The VIEWLOG initialization member, KLVINVLG, in RKANPAR is either not present or contains no statements.

**System action**

VIEWLOG initialization ends. VIEWLOG processing is not available. TMS:Engine initialization continues.

**User response**

Create a valid KLVINVLG member and recycle TMS:Engine.

**Message Type**

WARNING

**KLVL014: DSNAME OR DDNAME IS REQUIRED FOR VIEWLOG****Explanation**

The KLVINVLG member of RKANPAR does not have a data set or DD name or either coded.

**System action**

VIEWLOG initialization ends. VIEWLOG processing is not available. TMS:Engine initialization continues.

**User response**

Modify the KLVINVLG member to specify a data set or DD name or both, and then recycle TMS:Engine.

**Message Type**

WARNING

**KLVL015: VIEWLOG DSNAME RETRIEVAL FAILED, RC(*rc*) ERROR(*error*)  
INFO(*info*) DDNAME(*ddn*)****Explanation**

During VIEWLOG initialization, an attempt to determine the data set name associated with DD *ddn* failed. The z/OS® DYNALLOCC function gave with the indicated return, error, and info codes.

**System action**

VIEWLOG initialization ends. VIEWLOG processing is not available. TMS:Engine initialization continues.

**User response**

Consult the *IBM® z/OS® MVS™ Programming: Authorized Assembler Services Reference* to determine the reason DYNALLOCC failed.

**Message Type**

WARNING

## **KLVVL016: KLVINVLG RKANPAR PARAMETERS:**

### **Explanation**

Module KLVINVLG logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVVL017.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVVL017: *parameters***

### **Explanation**

As the parameters in module KLVINVLG are read, a log audit trail is created.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVVS003: VSAM ACB CLOSE FAILURE: R15(*r15*) ACBERFLG(*acberflg*)**

### **Explanation**

An unsuccessful attempt was made to close a VSAM ACB.

### **System action**

Any attempt to use the cluster in error may result in an error.

### **User response**

Use the appropriate IBM® DFP or VSAM programmer's reference (typically *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets*) for the CLOSE macro, and the *r15* and *acberflg* fields to determine the cause of the error. Then take appropriate corrective action.

### **Message Type**

ERROR

## **KLVVS010: *text***

### **Explanation**

A control statement in the KLVINVAM RKANPAR member has been read and is being processed. *text* is the statement.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVS011: VSAM ACB GENERATION ERROR: R15(*r15*) R0(*r0*), TERMINATION SCHEDULED****Explanation**

During TMS:Engine initialization, an error was detected when a GENCB macro was issued to generate an ACB.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Use the appropriate IBM® DFP or VSAM programmer's reference (typically *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets*) for the GENCB macro, and the *r15* and *r0* fields to determine the cause of the error. Then take appropriate corrective action and restart TMS:Engine.

**Message Type**

ALERT

**KLVVS012: EXCESS BYTES RESERVED IN \$CCB FOR VSAM ACB: NEEDED(*nbytes*) ALLOCATED(*mbytes*) EXCESS(*mbytes* - *nbytes*)****Explanation**

The length of the VSAM ACB generated is less than the amount of storage reserved for the ACB in the TMS:Engine control block \$CCB.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVS013: VSAM RPL GENERATION ERROR: R15(*r15*) R0(*r0*), TERMINATION SCHEDULED****Explanation**

During TMS:Engine initialization, an error was detected when a GENCB macro was issued to generate an RPL.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Use the appropriate IBM® DFP or VSAM programmer's reference (typically *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets*) for the GENCB macro, and the *r15* and *r0* fields to determine the cause of the error. Then take appropriate corrective action and restart TMS:Engine.

**Message Type**

ALERT

**KLVS014: EXCESS BYTES RESERVED IN \$CRB FOR VSAM RPL:  
NEEDED(*nbytes*) ALLOCATED(*mbytes*) EXCESS(*mbytes - nbytes*)****Explanation**

The length of the VSAM RPL generated is less than the amount of storage reserved for the RPL in the TMS:Engine control block \$CRB.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVS015: VSAM INITIALIZATION COMPLETE****Explanation**

When the VSAM initialization startup module has successfully completed, this message is logged to create an audit trail.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVS016: VSAM ACB REQUIRES *n* BYTES, ONLY *m* BYTES WERE RESERVED,  
INCREASE &\$CCBSP\$****Explanation**

The amount of storage reserved in the TMS:Engine \$CCB control block is not sufficient for the amount used by the VSAM ACB generated.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, the z/OS® system log, and determine your systems DFP release level. Then contact IBM® Software Support.

**Message Type**

WARNING

**KLVS017: VSAM RPL REQUIRES *n* BYTES, ONLY *m* BYTES WERE RESERVED, INCREASE &\$CRBSP\$****Explanation**

The amount of storage reserved in the TMS:Engine \$CRB control block is not sufficient for the amount used by the VSAM RPL generated.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, the z/OS® system log, and determine your systems DFP release level. Then contact IBM® Software Support.

**Message Type**

WARNING

**KLVS018: VSAM INITIALIZATION BYPASSED, NO LSR POOL****Explanation**

No LSR pool was allocated during TMS:Engine startup.

**System action**

The TMS:Engine VSAM facility is unavailable.

**User response**

Ensure that one or more LSRPOOL keywords are coded in RKLVIN and restart TMS:Engine.

**Message Type**

LOG

**KLVS019: TOO MANY FREEPCTWARN VALUES****Explanation**

More than 10 values were specified on the KLVINAM RKANPAR keyword, FREEPCTWARN.

**System action**

The remainder of the KLVINAM member will be processed. Then TMS:Engine startup will be terminated.

**User response**

Correct FREEPCTWARN to have 10 or fewer values.

**Message Type**

WARN, ERROR

## **KLVVS020: KLVINVAM RKANPAR PARAMETERS:**

### **Explanation**

Module KLVINVAM logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVVS010.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVVS021: VSAM LOGIC ERROR: RPL(*addr*) CLUSTER(*name*) RPLFDBWD(*rplfdbwd*) RPLIDWD(*rplidwd*) RPLOPTCD(*rploptcd*)**

### **Explanation**

A VSAM request issued by TMS:Engine received RC=8, indicating that a logical error occurred. For resource contention errors received for a given request, this message is issued every 10 errors to reduce message traffic in RKLVLLOG.

### **System action**

If the error indicates VSAM resource contention, message KLVVS026 will be issued and the request retried. Otherwise, the system action depends on the reason for the error.

### **User response**

When this message is followed by KLVVS026, refer to that message for appropriate actions. Otherwise, consult the appropriate IBM® DFP or VSAM reference manual (typically *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets*) for the meaning of RPLFDBWD (the feedback word) to determine the cause of the error. Then take the appropriate corrective action.

### **Message Type**

LOG

## **KLVVS023: FREEPCTWARN VALUE INVALID: *nnnn***

### **Explanation**

The value specified on the FREEPCTWARN parameter in the KLVINVAM member of RKANPAR is not valid.

### **System action**

Initialization is terminated.

### **User response**

Edit the KLVINVAM member of RKANPAR and correct the value specified for FREEPCTWARN. Valid values are 0 to 100.

### **Message Type**

WARNING, ERROR

## **KLVVS026: VSAM *type* CONTENTION - REQUEST WILL BE RETRIED IN 0.50 SECONDS (*nnn* RETRIES)**

### **Explanation**

A VSAM request issued by TMS:Engine was rejected because of resource contention. *type* may be CI, BUFFER, or STRING. *nnn* is the number of prior retries for this request. KLVVS021 precedes this message. For resource contention errors received for a given request, this message is issued every 10 errors to reduce message traffic in RKLVLLOG.

### **System action**

The TMS:Engine requester is suspended for one-half second. Then the request is reissued.

### **User response**

If the condition occurs often, take the following actions:

- **STRING:** Increase the LSRSTRNO value in RKLVIN to allow more concurrent VSAM requests. If the value is at its maximum of 255, no further action is available.
- **BUFFER:** Increase the LSRPOOL value in RKLVIN for the CI size of the cluster identified in the KLVVS021 message.
- **CI:** If the cluster identified in the KLVVS021 message has a CI size greater than 4096, reallocate it with CISIZE(4096) and increase the LSRPOOL value for buffer size 4096. If the CI size is 4096 or smaller, no further action is available.

### **Message Type**

LOG

## **KLVVS031: VSAM PHYSICAL ERROR: RPL(*addr*) CLUSTER(*name*) RPLFDBWD(*rplfdbwd*) RPLIDWD(*rplidwd*) RPLOPTCD(*rploptcd*)**

### **Explanation**

A VSAM physical error was detected.

### **System action**

The system action depends on the reason for the error.

### **User response**

Consult the appropriate IBM® DFP or VSAM reference manual (typically *IBM® z/OS® DFSMS™ Macro Instructions for Data Sets*) for the meaning of RPLFDBWD (the feedback word) to determine the cause of the error. Then take the appropriate corrective action.

### **Message Type**

LOG

## **KLVVS041: FREEPCTWARN VALUE INVALID: *pct***

### **Explanation**

A FREEPCTWARN value is larger than 100 or less than 0.

### **System action**

The remainder of the KLVINVAM member will be processed. Then TMS:Engine startup will be terminated.

### **User response**

Correct FREEPCTWARN so that all values are between 0-100 inclusive.

**Message Type**

WARN, ERROR

**KLVVS042: '*text*' IS NOT VALID FOR *kw*d RKANPAR(KLVINVAM)****Explanation**

The KLVINVAM keyword, *kw*d, had a value, *text*, that is not YES or NO.

**System action**

The remainder of the KLVINVAM member will be processed. Then TMS:Engine startup will be terminated.

**User response**

Correct *kw*d to specify YES or NO.

**Message Type**

WARN, ERROR

**KLVVS043: SPACEINTERVAL VALUE INVALID: *nnn*****Explanation**

The SPACEINTERVAL value is 0 or negative.

**System action**

The remainder of the KLVINVAM member will be processed. Then TMS:Engine startup will be terminated.

**User response**

Correct SPACEINTERVAL so that the value is 1 or greater.

**Message Type**

WARN, ERROR

**KLVVS050: *dd type* EXTENTS=*mmm* FREE=*nnn*% DSNAME=*dsn*****Explanation**

This message documents the current space usage for data set *dsn*, allocated to DD *dd type* is either DATA or INDEX. *mmm* is the current number of extents occupied by the data or index. *nnn* is the current percentage of space free within the cluster.

KLVVS050 is issued for any of these reasons:

- OPENMESSAGE=YES was specified and the cluster is being opened.
- CLOSEMESSAGE=YES was specified and the cluster is being closed.
- The number of data or index extents changed.
- The free space percentage has reached or crossed one of the values specified in the FREEPCTWARN keyword.

**System action**

None.

**User response**

None.

## Notes®

OPENMESSAGE, CLOSEMESSAGE, and FREEPCTWARN are all specified in the RKANPAR member, KLVINVAM.

## Message Type

LOG, WARN

## **KLVVS051: SHOWCB RC=*rc* REASON=*rs dd dsn*; SPACE MESSAGES DISABLED**

### Explanation

Space usage could not be determined for data set *dsn*, allocated to *dd*, because a SHOWCB macro failed. *rc* is the return code (R15); *rs* is the reason code (R0).

### System action

No further space usage monitoring will be done for the cluster. All other VSAM operations are unaffected.

### User response

Contact IBM® Software Support with the contents of this message and your z/OS® and DFP release and maintenance levels.

## Message Type

LOG, WARN, ERROR

## **KLVVS052: INVALID KLVVSSTM REQUEST**

### Explanation

An invalid parameter list was passed to an TMS:Engine VSAM service module.

### System action

The active thread is terminated. A diagnostic dump will be taken to the system dump data sets or RKLVSnap.

### User response

Keep the TMS:Engine run sheets and the dump, and contact IBM® Software Support.

## Message Type

None.

## **KLVVT001: VTAM® OPEN ERROR: APPLID(*applid*) R15(*r15*) ACBERFLG(*acberflg*)**

### Explanation

An unsuccessful attempt was made to open a VTAM® ACB.

### System action

The application terminates.

### User response

Use *IBM® z/OS® Communications Server SNA Programming* and the *r15* and *acberflg* fields to determine the cause of the error and take appropriate corrective action.

## Message Type

LOG, VIEW

**KLVVT002: VTAM® CLOSE ERROR: APPLID(*applid*) R15(*r15*)  
ACBERFLG(*acberflg*)**

**Explanation**

An unsuccessful attempt was made to close a VTAM® ACB.

**System action**

None.

**User response**

Use *IBM® z/OS® Communications Server SNA Programming* and the *r15* and *acberflg* fields to determine the cause of the error and take appropriate corrective action.

**Message Type**

LOG, VIEW

**KLVVT003: CRITICAL APPLICATION TERMINATING: APPLID(*applid*)**

**Explanation**

A critical application *applid* is in the process of terminating. An application is defined as critical at open time.

**System action**

None.

**User response**

None.

**Message Type**

ALERT

**KLVVT004: VTAM® ACCESS METHOD SUPPORT VECTOR LIST RELEASE LEVEL  
*level* COMPONENT ID *id* FUNCTION LIST *list* VECTOR *vector***

**Explanation**

The first VTAM® ACB is successfully opened, causing information about the current level of z/OS® Communications Server to be logged.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT005: SETLOGON FAILURE: APPLID(*applid*), REQSTAT(*reqstat*)**

**Explanation**

A SETON request for application ABCNAME failed. *reqstat* is the return code and feedback information: the first byte of which is the return code, the second byte is the feedback, and the third and fourth are the SNA sense code.

**System action**

The application terminates.

**User response**

Use *IBM® z/OS® Communications Server SNA Programming* and the *reqstat* field to determine the cause of the error and take appropriate corrective action.

**Message Type**

INFO

**KLVVT006: GENERIC RESOURCE SUPPORT REQUIRES VTAM® 4.2 OR LATER.****Explanation**

The use of generic resources is required but the level of VTAM® which is installed does not support generic resources. VTAM® must be at the 4.2 or higher level.

**System action**

Initialization is terminated.

**User response**

Either remove the use of generic resources or install a version of VTAM® which supports that function.

**KLVVT007: GENERIC RESOURCE ADD FAILED FOR *applname*****Explanation**

A SETLOGON OPTCD=GNAMEADD macro was issued for *applname* to attempt to register as a generic resource but the macro failed.

**System action**

Initialization is terminated.

**User response**

Check VTAM® configuration to determine if generic resource definitions are correct.

**KLVVT011: PHYSICAL ERROR COUNT EXCEEDED FOR *slname*, SESSION TERMINATED****Explanation**

Too many I/O errors have occurred on *slname*.

**System action**

The session is terminated.

**User response**

Determine the cause of the I/O errors and take corrective action.

**Message Type**

INFO

## **KLVVT015: SESSION PROCEDURE TIMEOUT: LU(*luname*) SPT(*timeout*)**

### **Explanation**

A session initiation request has timed out. A REQSESS for primary LU *luname* or SIMLOGON for secondary LU *luname* was issued and the response to the request exceeded the timeout interval *timeout*.

### **System action**

The session initiation attempt fails.

### **User response**

Increase SPT value in member KLVINVTM in RKANPAR library.

### **Message Type**

INFO

**KLVVT021: *text: appl, <lu><dest>, <cid>, <logmode>, seqno, req, <mod>cntrl, fdbk<, fdbk2><, osens>***

### **Explanation**

VTAM® and TMS:Engine information have been formatted because a VTAM® error has occurred or because TMS:Engine has been directed to trace certain VTAM® actions. The data that may be shown follows (RPL field names are in brackets):

- *text*: Short description of the error.

#### **PI TRACE**

TMS:Engine has been directed to trace the flow of control for this ACB.

#### **EXIT TRACE**

TMS:Engine has been directed to trace the flow of control for this ACB.

#### **DFASY EXIT**

TMS:Engine has been directed to trace the flow of control for this ACB.

#### **REQUEST RETRY**

The request was rejected because of a storage shortage. TMS:Engine will wait one second and then retry the request.

#### **INBOUND -RSP-**

A negative response was received and DEBUG(Y) has been requested.

#### **INBOUND +RSP**

A positive response was received and TMS:Engine has been directed to trace the flow of control for this ACB.

#### **CHAIN RETRY**

An exceptional condition was detected for this request and is being retried.

#### **CHAIN RETRY FAILED**

An attempt to retry a request that failed for an exceptional reason was not successful. The session is terminated. Refer to the data fields in the message to determine the problem.

#### **OUTBOUND -RSP-**

A negative response is being reflected to the requester. Refer to the data fields in the message for more information.

#### **LOGICAL ERROR**

A VTAM® logical error was detected. Refer to the data fields in the message for more information.

## VTAM® NSXIT, UNKNOWN RU

The TMS:Engine Network Services Exit was scheduled, but the request unit (RU) received was not a Cleanup, Notify, or Network Services RU. Contact your site z/OS® Communications Server systems programmer.

## INVALID CORRELATOR

A solicited BIND has been received, but the user-provided correlator returned by VTAM® is not valid. The BIND is rejected. Contact your z/OS® Communications Server systems programmer.

## PHYSICAL ERROR

A z/OS® Communications Server physical error was detected. If the error was a z/OS® Communications Server storage shortage the request is retried until it succeeds or fails for a different reason. Refer to the data fields in the message to determine the problem.

- *appl*: Application ID.
- *lu*: Logical unit name.
- *dest*: Destination (for CLSDST PASS).
- *cid*: Communication identifier.
- *logmode*: Associated logmode.
- *seqno*: RPL sequence number. [RPLSEQNO].
- *req*: Request code. If it is one of a standard set, it is shown in English; otherwise it is formatted in hexadecimal. [RPLREQ].
- *nie*: Control modifier: [RPLSRYP] and [RPLRH3].
  - **R** Response
  - **BB** Begin bracket
  - **EB** End bracket
  - **CEB** Conditional end bracket
  - **CD** Change direction
- *cntrl* Control information. If it is one of a standard set, it is shown in English; otherwise it is formatted in hex. [RPLCNTRL].
- *fdbk*: Request feedback. If it is one of a standard set, it is shown in English; otherwise it is formatted in hex. [RPLFDBK].
- *fdbk2*: More feedback information, displayed in hex. [RPLFDBK2].
- *osens*: Sense code information, displayed in hex. [RPLSENS].

If a data item cannot be located, it is omitted from the message. If DEBUG(Y) was specified in the TMS:Engine KLVSYN file, the contents of any request units, the RPL, and an TMS:Engine control block will be displayed, if they are relevant.

## System action

The system action depends on the reason for the dump.

## User response

Refer to *IBM® z/OS® Communications Server SNA Programming* to obtain information about the FDBK, FDBK2, and OSENS fields. If the dump seems to be associated with a persistent problem, contact IBM® Software Support.

**Note:** Many of these dumps are the result of normal conditions, such as powering a terminal off.

**Message Type**

LOG. If DEBUG(Y) is specified, LOG, VIEW.

**KLVT021\_2: EXCEPTION RESPONSE****Explanation**

An exception response was received by TMS:Engine.

**System action**

The system action depends on the reason for the exception response.

**User response**

If the exception response is not the result of normal network activity, contact IBM® Software Support.

**Message Type**

LOG

**KLVT021\_3: DEFINITE RESPONSE****Explanation**

The EXIT or API traces have been enabled. All responses received by TMS:Engine cause a VTAM® request dump under these circumstances.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVT021\_4: VTAM® LERAD EXIT****Explanation**

A VTAM® logic error was detected, causing the TMS:Engine LERAD exit to be scheduled.

**System action**

None.

**User response**

Consult your site's network systems programmer.

**Message Type**

LOG

**KLVT021\_5: VTAM® NSEXIT, UNKNOWN RU****Explanation**

The TMS:Engine Network Services Exit was scheduled, but the RU received was not a Cleanup RU or a Notify RU.

**System action**

None.

**User response**

Consult your site's network system programmer.

**Message Type**

LOG

**KLVT021\_6: VTAM® SYNAD EXIT****Explanation**

A physical error or special condition was encountered by VTAM®, causing the TMS:Engine SYNAD exit to be scheduled.

**System action**

Unpredictable.

**User response**

Consult your site's network system programmer.

**Message Type**

LOG

**KLVT021\_7: PHYSICAL ERROR****Explanation**

VTAM® encountered a physical error, for example, a storage shortage.

**System action**

The operation is retried until successful. System action is invisible to the user.

**User response**

None. This message is logged for audit purposes only.

**Message Type**

LOG

**KLVT021\_8: API EXIT TRACE ENABLED****Explanation**

The API exit trace has been enabled.

**System action**

A VTAM® request dump is taken.

**User response**

None.

**Message Type**

LOG

## **KLVT021\_9: RPL EXIT TRACE ENABLED**

### **Explanation**

The RPL exit trace has been enabled.

### **System action**

A VTAM® request dump is taken.

### **User response**

None.

### **Message Type**

LOG

## **KLVT021\_10: INVALID CORRELATOR**

### **Explanation**

A solicited BIND has been received, and the user-provided correlator returned by the access method is not valid.

### **System action**

The BIND is rejected.

### **User response**

Consult your site's network system programmer.

### **Message Type**

LOG

## **KLVT031: LOGON REJECTED: LU(*luname*) CID(*cid*)**

### **Explanation**

Either:

- A resource ID could not be assigned, or
- Session initialization failed for the device *luname* and communication ID *cid*.

### **System action**

The session terminates.

### **User response**

Look for other error messages associated with this LU *luname* to isolate the error.

### **Message Type**

INFO

## **KLVT051: NETWORK SERVICES RU: APPLID(*acb*) LRN(*lrn*) RU(*ru*)**

### **Explanation**

The TMS:Engine NSEXIT received a network services RU.

**System action**

For cleanup requests, the session is terminated.

**User response**

The RU field contains the network services RU type. Refer to *SNA Formats (SNA Reference Summary)* (GA27-3136 ) to determine the NS RU type or contact your site's network system programmer.

**Message Type**

LOG

**KLVVT061: RELEASE REQUESTED: LU(*luname*) ACB(*address*)****Explanation**

Another application program has requested a session with logical unit *luname*. *address* is the address of the TMS:Engine ACB for *luname*. VTAM® does not provide information about the application that requested the release.

**System action**

A VTAM® RELREQ command is issued against *luname*.

**User response**

None.

**Message Type**

LOG, VIEW

**KLVVT062: RELEASE REQUESTED, SESSION NOT FOUND: LU(*lu*)****Explanation**

Another application program has requested a session with logical unit *lu* but the session between an TMS:Engine application and LU *lu* could not be found.

**System action**

None.

**User response**

None.

**Message Type**

LOG, VIEW

**KLVVT091: APPLICATION HAS BEEN HALTED: APPLID(*applid*)****Explanation**

The network operator is shutting down the network or this application, or a VTAM® abend has occurred.

**System action**

Sessions between application *applid* and its associated logical units terminate.

**User response**

This message is normally the result of an orderly TMS:Engine shutdown. Each active application is closed by TMS:Engine.

**Message Type**

WARNING

**KLVVT101: VTAM® EXLST GENERATION ERROR: R15(*r15*) R0(*r0*) TERMINATION SCHEDULED****Explanation**

An error was detected during the generation of a VTAM® EXLST.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error. Correct it, and restart TMS:Engine. The return code appears in the *r15* field and the error return code appears in the *r0* field.

**Message Type**

ALERT

**KLVVT102: VTAM® ACB GENERATION ERROR: R15(*r15*) R0(*r0*) TERMINATION SCHEDULED****Explanation**

An error was detected during the generation of a VTAM® ACB GENCB macro.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error. Correct it, and restart TMS:Engine. The return code appears in the *r15* field and the error return code appears in the *r0* field.

**Message Type**

ALERT

**KLVVT103: EXCESS BYTES RESERVED IN \$ACB FOR VTAM® ACB: NEEDED(*nbytes*) ALLOCATED(*mbytes*) EXCESS(*mbytes - nbytes*)****Explanation**

The length of the VTAM® ACB generated is less than the amount of storage reserved for the ACB in the TMS:Engine control block \$ACB.

**System action**

None.

**User response**

None.

**Message Type**

LOG

## **KLVVT104: VTAM® NIB GENERATION ERROR: R15(*r15*) R0(*r0*) TERMINATION SCHEDULED**

### **Explanation**

An error was detected during the generation of a VTAM® NIB (GENCB macro).

### **System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

### **User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error. Correct it, and restart TMS:Engine. The return code appears in the *r15* field and the error return code appears in the *r0* field.

### **Message Type**

ALERT

## **KLVVT105: EXCESS BYTES RESERVED IN \$NIB FOR VTAM® NIB: NEEDED(*nbytes*) ALLOCATED(*mbytes*) EXCESS(*mbytes - nbytes*)**

### **Explanation**

The length of the VTAM® NIB generated is less than the amount of storage reserved for the RPL in the TMS:Engine control block \$CRB.

### **System action**

None.

### **User response**

None.

### **Message Type**

LOG

## **KLVVT106: VTAM® RPL GENERATION ERROR: R15(*r15*) R0(*r0*) TERMINATION SCHEDULED**

### **Explanation**

An error was detected during the generation of a VTAM® RPL GENCB macro.

### **System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

### **User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error. Correct it, and restart TMS:Engine. The return code appears in the *r15* field and the error return code appears in the *r0* field.

### **Message Type**

ALERT

**KLVVT107: EXCESS BYTES RESERVED IN \$ARB FOR VTAM® RPL:  
NEEDED(*nbytes*) ALLOCATED(*mbytes*) EXCESS(*mbytes - nbytes*)**

**Explanation**

The length of the VTAM® RPL generated is less than the amount of storage reserved for the RPL in the TMS:Engine control block \$ARB.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT108: NO EXTENDED SUPPORT FOR VTAM® LEVEL: *level***

**Explanation**

Some extended functions such as RTM might not be able to perform.

**System action**

Processing continues.

**User response**

If extended functions such as RTM are used contact IBM® Software Support.

**Message Type**

LOG

**KLVVT109: VTAM® ACB REQUIRES *n* BYTES, ONLY *m* BYTES WERE RESERVED,  
INCREASE &\$ACBSP\$**

**Explanation**

The amount of storage reserved in the TMS:Engine control block \$ACB is not sufficient for the amount used by the VTAM® ACB generated.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Determine your systems z/OS® Communications Server release level. Then contact IBM® Software Support.

**Message Type**

WARNING

**KLVVT110: VTAM® NIB REQUIRES *n* BYTES, ONLY *m* BYTES WERE RESERVED, INCREASE &\$NIBSP\$**

**Explanation**

The amount of storage reserved in the TMS:Engine control block \$SCB is not sufficient for the amount used by the VTAM® NIB generated.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Determine your system's z/OS® Communications Server release level. Then contact IBM® Software Support.

**KLVVT111: VTAM® RPL REQUIRES *n* BYTES, ONLY *m* BYTES WERE RESERVED, INCREASE &\$ARBSP\$**

**Explanation**

The amount of storage reserved in the TMS:Engine control block \$ARB is not sufficient for the amount used by the VTAM® RPL generated.

**System action**

After any subsequent startup modules are invoked, TMS:Engine terminates.

**User response**

Keep the TMS:Engine run sheets and dump files, this message, and the z/OS® system log. Determine your system's z/OS® Communications Server release level. Then contact IBM® Software Support.

**Message Type**

WARNING

**KLVVT112: VTAM® INTERFACE INITIALIZED [,XA] [,AUTHORIZED PATH] [,SPT=VTSPT]**

**Explanation**

The VTAM® interface has been initialized and XA and AUTHORIZED PATH are displayed if used. VTSPT specifies the VTAM® session procedure timeout.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVVT113: KLVINVTM RKANPAR PARAMETERS:**

**Explanation**

Module KLVINVTM logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVVT114.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT114: *parameters*****Explanation**

As the parameters in module KLVINVTM are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT251: SESSION SETUP ERROR: POOL(*pool*) APPLID(*applid*) PLU(*plu*)  
REQSTAT(*rcfb*)****Explanation**

There has been a failure to establish a virtual session. *pool* and *applid* identify the virtual terminal. *plu* is the requested application. *rcfb* is the 4-byte return code and feedback information:

- **1:** Return code. The high bit (X'80') will be turned on if this message is being issued as a result of a VTAM® NOTIFY request unit. The next bit (X'40') will be turned on if the data shown in bytes 3 and 4 is the user sense code. The remaining bits are the notify reason from the NOTIFY RU or the RPL return code (RPLRTNCD) from the VTAM® acquire request.
- **2:** The reason code, from the NOTIFY RU (notify) or RPLFDB2 (acquire).
- **3,4:** The sense code. This is from the NOTIFY RU for notify or from RPLFDBK2/RPLUSNSI for acquire.

The NOTIFY request unit is described in t *IBM® z/OS® Communications Server SNA Programming*, under "NSEXIT Exit Routine"

**System action**

None.

**User response**

Refer to the appropriate IBM® z/OS® Communications Server manual for the meaning of the sense code provided in bytes 3 and 4 of *rcfb* and correct the problem.

**Message Type**

INFO

## **KLVVT501: INITIALIZATION MEMBER KLVINVPO NOT AVAILABLE**

### **Explanation**

Member KLVINVPO in the initialization library was not available at startup time.

### **System action**

The VTAM® programmed operator facility (VPO) is unavailable.

### **User response**

If use of this facility is desired, define member KLVINVPO in the initialization library and restart TMS:Engine.

### **Message Type**

LOG

## **KLVVT503: INITIALIZATION MEMBER KLVINVPO IS EMPTY**

### **Explanation**

Member KLVINVPO in the initialization library is empty.

### **System action**

The VPO facility is unavailable.

### **User response**

If use of this facility is desired, update member KLVINVPO and restart TMS:Engine.

### **Message Type**

WARNING

## **KLVVT505: VPO SHOWCB ERROR: R15(*r15*) R0(*r0*)**

### **Explanation**

An error was detected upon execution of an z/OS® SHOWCB macro instruction.

### **System action**

The TMS:Engine programmed operator facility (VPO) is unavailable.

### **User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error and take appropriate corrective action.

### **Message Type**

WARNING

## **KLVVT506: VPO ACB GENERATION ERROR: R15(*r15*) R0(*r0*)**

### **Explanation**

An error was detected upon execution of an z/OS® GENCB macro instruction.

### **System action**

The TMS:Engine programmed operator facility (VPO) is unavailable.

**User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error and take appropriate corrective action. The error is in reference to the VPO ACB defined in initialization library member KLVINVPO.

**Message Type**

WARNING

**KLVVT507: UNABLE TO OPEN VPO ACB: R15(*r15*) ACBERFLG(*acberflg*)  
APPLID(*applid*)****Explanation**

An error was detected upon execution of an z/OS® OPEN macro instruction for the VPO ACB.

**System action**

The TMS:Engine programmed operator facility (VPO) is unavailable.

**User response**

Consult the *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVT508: VPO RPL GENERATION ERROR: R15(*r15*) R0(*r0*)****Explanation**

An error was detected upon execution of an z/OS® GENCB macro instruction.

**System action**

The TMS:Engine programmed operator facility (VPO) is unavailable.

**User response**

Consult *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVT509: VPO APPLID IS NOT AUTHORIZED AS A PROGRAM OPERATOR:  
APPLID(*applid*) RPLRTNCD(*rplrtncd*) RPLFDB2(*rplfdb2*)****Explanation**

A DISPLAY NET,MAJNODES command was issued but the VPO applid was not authorized to issue VTAM® commands. The most probable cause is the absence of the SPO parameter on the APPL definition.

**System action**

The TMS:Engine programmed operator facility (VPO) is unavailable.

**User response**

Consult the *IBM® z/OS® Communications Server SNA Programming* to determine the cause of the error and take appropriate corrective action.

**Message Type**

WARNING

**KLVVT510: UNABLE TO INITIALIZE VPO RESOURCE ID: APPLID(*applid*)****Explanation**

An unsuccessful attempt was made to identify the VTAM® program operator to the TMS:Engine logical resource manager.

**System action**

The VPO facility is unavailable.

**User response**

Contact IBM® Software Support.

**Message Type**

WARNING

**KLVVT511: VPO INITIALIZATION COMPLETE: APPLID(*applid*)****Explanation**

VPO initialization has completed successfully.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVVT512: KLVINVPO RKANPAR PARAMETERS:****Explanation**

Module KLVINVPO logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVVT513.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT513: *parameters*****Explanation**

As the parameters in module KLVINVPO are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT601: VTAM® MAXIMUM PHYSICAL ERROR COUNT IS *nnnn* [WAS *nnnn*]****Explanation**

The maximum error count has been changed by the CHANGE ERPCOUNT command.

**System action**

Processing continues.

**User response**

None.

**Message Type**

INFO

**KLVVT602: VTAM® PUBLIC VECTOR NOT INITIALIZED****Explanation**

A CHANGE ERPCOUNT command was entered but the system is unable to locate the VTAM® public vector table.

**System action**

The CHANGE ERPCOUNT command is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

INFO

**KLVVT851: UNSUPPORTED FUNCTION MANAGEMENT PROFILE: LU(*luname*)  
FM PROF(*prof*)****Explanation**

The function management profile *prof* is unsupported.

**System action**

The session terminates.

**User response**

Logical units with this FM profile cannot establish sessions with TMS:Engine. Consult the *z/OS® Communications Server SNA Programmer's LU 6.2 Reference* for more information on FM profiles and bind parameters.

**Message Type**

LOG, WARNING, VIEW

**KLVVT852: UNSUPPORTED TRANSMISSION SERVICES PROFILE: LU(*luname*)  
TSPROF(*prof*)****Explanation**

The transmission services profile *prof* is unsupported.

**System action**

The session terminates.

**User response**

Logical units with this TS profile cannot establish sessions with TMS:Engine. Refer to *z/OS® Communications Server SNA Programmer's LU 6.2 Reference* for more information on TS profiles and bind parameters.

**Message Type**

LOG, WARNING, VIEW

**KLVVT853: UNSUPPORTED LUTYPE: LU(*luname*) LUTYPE(*lutype*)****Explanation**

An attempt to establish a session with *luname* is rejected because the type of logical unit is not supported.

**System action**

The session is terminated.

**User response**

None

**Message Type**

LOG, WARNING, VIEW

**KLVVT901: ABNORMAL RECEIVE TERMINATION RTNCD(*rplrtncd*)  
FDB2(*rplfdb2*) SSEI(*rplssei*) SSMI(*rplssmi*) USNSI(*rplusnsi*) ACB(*acb*)  
LU(*lu*)****Explanation**

TMS:Engine was unable to determine the correct action to take in response to an exception request.

**System action**

The session terminates.

**User response**

If the reason for the error cannot be determined from the information supplied and the error persists, contact IBM® Software Support.

**Message Type**

REPLY

## **KLVVT902: INBOUND MESSAGE LIMIT EXCEEDED LU(*luname*) SESSION CANCELLED**

### **Explanation**

The limit of inbound messages received either from application or physical terminal luname is exceeded.

### **System action**

The session for the application/terminal is terminated.

### **User response**

Examine initialization parameter INBDLIM. Contact the application or terminal vendor and increase the limit if appropriate.

### **Message Type**

ALERT

## **KLVVT903: INBOUND CHAIN ELEMENT LIMIT EXCEEDED LU(*luname*) SESSION CANCELLED**

### **Explanation**

The limit of SNA chain elements per chain received either from application or physical terminal luname is exceeded.

### **System action**

The session for the application/terminal is terminated.

### **User response**

Examine initialization parameter INBCHAINLIM. Contact the application or terminal vendor and increase the limit if appropriate.

### **Message Type**

ALERT

## **KLVVT904: INBOUND MESSAGE SIZE LIMIT EXCEEDED LU(*luname*) SESSION CANCELLED**

### **Explanation**

The inbound message size received from application or physical terminal luname is greater than 524,288 bytes.

### **System action**

The session for the application/terminal is terminated.

### **User response**

Contact the application or terminal vendor.

### **Message Type**

ALERT

**KLVVT951: VIRTUAL SESSION MANAGER INITIALIZED, TIMEOUT=*tt*,  
RETRY=*rr***

**Explanation**

This message is logged to create an audit trail when the virtual session manager has been successfully initialized. TIMEOUT refers to the virtual session establishment timeout specified in RKANPAR member KLVINVSM or the default value. RETRY refers to the number of times TMS:Engine will retry the TIMEOUT interval.

**System action**

None.

**User response**

None.

**Message Type**

INFO

**KLVVT952: KLVINVSM RKANPAR PARAMETERS:**

**Explanation**

Module KLVINVSM logs its startup parameters as they are read from RKANPAR. This is the header message and will be followed by message KLVVT953.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVVT953: *parameters***

**Explanation**

As the parameters in module KLVINVSM are read, a log audit trail is created.

**System action**

None.

**User response**

None.

**Message Type**

LOG

**KLVXC001: XCF MESSAGE TOO LONG, MESSAGE DISCARDED**

**Explanation**

An XCF message has been received, but not enough storage is available to allocate a buffer to receive it.

**System action**

The message is discarded.

**User response**

None.

**Message Type**

ERROR

## KLX messages

The messages that begin with the KLX prefix are associated with the Tivoli Enterprise™ Monitoring Server or Tivoli® Management Services:Engine (TMS:Engine).

### KLXCP001: WAITING FOR TCP/IP TO INITIALIZE

**Explanation**

After the TCP/IP interface was successfully initialized, the TCP/IP address space is no longer active (perhaps it is being recycled). This message appears both in the log and on the system console.

**System action**

No further use of TCP/IP for communications is possible until the address space is restarted. When TCP/IP is restarted, this message is removed from the system console.

**User response**

Restart the TCP/IP address space if processing is to continue.

**Message Type**

INFO

### KLXIN001: TCP/IP CONFIGURATION: *<content of member>*

**Explanation**

The member KLXINTCP is the configuration member of RKANPAR that is used to configure the IBM® TCP/IP interface. This message displays in the content of member KLXINTCP.

**System action**

The process continues.

**User response**

None. This message is informational.

**Message Type**

VIEW

### KLXIN002: SYNTAX ERROR - *msg: text*

**Explanation**

The KLXINTCP configuration member of RKANPAR is invalid. The syntax error is displayed in this message.

**System action**

Initialization of the TCP/IP interface fails and the application continues with no access to TCP/IP.

**User response**

Correct the KLXINTCP configuration member of RKANPAR and restart the product.

**Message Type**

WARN

**KLXIN003: TCP/IP INTERFACE INITIALIZED****Explanation**

Initialization of the TCP/IP protocol stack has completed successfully.

**System action**

The process continues.

**User response**

This message is informational.

**Message Type**

LOG

**KLXIN004: TCP/IP INTERFACE NOT OPENED: RC(nnnn)****Explanation**

Allocation and initialization of the TCP/IP interface has failed.

**System action**

TCP/IP access is not available to the application.

**User response**

Gather relevant logs and submit them to IBM® Software Support.

**Message Type**

WARN

**KLXIN005: TCP/IP INTERFACE INITIALIZATION BYPASSED****Explanation**

Initialization of the TCP/IP protocol is bypassed: configuration member KLXINTCP is not present in RKANPAR.

Note that this is not necessarily an error.

**System action**

The application continues without TCP/IP access.

**User response**

This message is informational.

**Message Type**

INFO

**KLXIN009: SOCKET INTERFACE TO *tcpipname* UNAVAILABLE: <RC(*nnnn*)  
ERRNO(*nnnn*)>**

**Explanation**

This message indicates that the TCP/IP interface has failed to initialize. The resulting return code and errno should be examined for the cause of failure. Refer to the *z/OS® Communications Server: IP Sockets Application Programming Interface Guide and Reference* (SC31-8788) for an explanation of the return codes and errnos.

**System action**

TCP/IP access is not available to the application.

**User response**

Make sure the KLXINTCP member of RKANPAR contains the correct TCP/IP stack identifier.

**Message Type**

WARN

**KLXOP001: UNRECOGNIZED SUBCOMMAND: <*unrecognized subcommand*>**

**Explanation**

The LBDAEMON operator command failed. The subcommand is not recognized.

**System action**

The LBDAEMON operator command is ignored.

**User response**

Correct the command and re-enter.

**Message Type**

ERROR

**KLXOP002: UNRECOGNIZED DAEMON ID: <*daemon name*>**

**Explanation**

The LBDAEMON START operator command failed because the requested daemon is not valid.

**System action**

The LBDAEMON START command is ignored.

**User response**

Correct the daemon name/ID and retry the LBDAEMON operator command.

**Message Type**

ERROR

**KLXOP003: DAEMON NOT AVAILABLE: <*daemon*>**

**Explanation**

The LBDAEMON command HAS failed because the requested daemon is not available.

**System action**

The LBDAEMON operator command is ignored.

**User response**

This is an unusual condition. Gather relevant logs and report the problem to IBM® Software Support.

**Message Type**

ERROR

**KLXOP004: DAEMON STARTED: <daemon>****Explanation**

The LBDAEMON START command has completed successfully.

**System action**

The requested DAEMON is started.

**User response**

None.

**Message Type**

ERROR

**KLXOP010: eeeeeeeeeeeeeeeeeee ccccccccccccccc****Explanation**

A syntax error eeeeeeeeeeeeeeeeeee was countered while processing an IPMVS command.

**System action**

The command is ignored.

**User response**

Correct the syntax error and re-enter the command, if required.

**Message Type**

ERROR

**KLXOP011: TCP/IP NOT AVAILABLE****Explanation**

An IPMVS command was entered, but the TCP/IP interface has not been initialized.

**System action**

The command is ignored.

**User response**

Configure the TCP/IP interface and restart IBM® Tivoli® Monitoring.

**Message Type**

ERROR

## **KLXOP012: TCP/IP *subcommand* NOT RECOGNIZED: *subcommand***

### **Explanation**

The IPMVS command specifies a subcommand which is not recognized.

### **System action**

The command is ignored.

### **User response**

Re-enter the IPMVS command, specifying a valid subcommand.

### **Message Type**

ERROR

## **KLXOP013: TCP/IP *subcommand* FAILED: RC(*nnnn*)**

### **Explanation**

The indicated IPMVS subcommand failed with return code *nnnn*.

### **System action**

Processing continues.

### **User response**

None.

### **Message Type**

ERROR

## **KLXOP014: TCP/IP *subcommand* COMPLETED**

### **Explanation**

The indicated IPMVS subcommand completed successfully.

### **System action**

Processing continues.

### **User response**

None.

### **Message Type**

REPLY

## **KLXOP015: *nnnn* HOSTNAME: *hostname***

### **Explanation**

An IPMVS HOSTNAME or CONNECT command was issued. The return code from the GETHOSTNAME macro is *nnnn* and the hostname is *hostname*.

### **System action**

Processing continues.

**User response**

None.

**Message Type**

REPLY

## KMV messages

The messages that begin with the KMV prefix are associated with OMEGAVIEW®.

### **KMVCCC001E: UNABLE TO LOCATE KMVCCC GLOBAL AREA**

**Explanation**

The KMVCCC global structure was not located.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

### **KMVCCC002E: INVALID STATUS ITEM NAME IN GETATTRIBUTE REQUEST**

**Explanation**

An invalid status item name was passed in a request to obtain initial attributes.

**System action**

The GetAttribute request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

### **KMVCCC003E: MANAGED OBJECT *object* NOT FOUND**

**Explanation**

During a GetAttribute request, the specified object could not be located.

**System action**

The GetAttribute request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC004E: RULE FOR MANAGED OBJECT *object* IS TOO LONG**

### **Explanation**

While creating or updating the Status Data Manager (SDM) resources for the specified managed object, the SDM rule string became too long. This may be due to the number of children subordinate to the object.

### **System action**

The SDM rule is not updated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC005E: ENTERPRISE OBJECT NOT FOUND**

### **Explanation**

The KMVCCC Enterprise object was not located.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC006E: ENTERPRISE OBJECT IS NOT VALID**

### **Explanation**

The KMVCCC Enterprise object is not in a valid state.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC007I: ERROR *return\_code* WHILE CONNECTING TO HUB -- RETRY IN 2 MINUTES**

### **Explanation**

*return\_code* was received while connecting to the Tivoli Enterprise™ Monitoring Server hub.

### **System action**

The request will be retried in two minutes.

**User response**

Make sure the KDCSHOST and KDSENV configuration members are properly set up for locating the hub. If the problem persists, contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC008E: INTERNAL THREAD DISPATCH ERROR****Explanation**

An error occurred while dispatching a thread.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC009E: UNRECOVERABLE ERROR *return\_code* WHILE CONNECTING TO HUB****Explanation**

*return\_code* was received while connecting to the Tivoli Enterprise™ Monitoring Server hub.

**System action**

No further attempts will be made.

**User response**

Make sure the KDCSHOST and KDSENV configuration members are properly set up for locating the hub. If the problem persists, contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC010E: UNABLE TO INITIALIZE KMVCCC SERVICE QUEUE****Explanation**

An error occurred while setting up the KMVCCC service queue.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC011E: UNABLE TO INITIALIZE SDM INTERFACE**

### **Explanation**

An error occurred while setting up the interface to the Status Data Manager (SDM).

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC012I: EIB CHANGE THREAD SHUTTING DOWN**

### **Explanation**

The thread that monitors the Tivoli Enterprise™ Monitoring Server hub for changes to the enterprise, and the managed objects it contains, is shutting down.

### **System action**

Processing continues.

### **User response**

This message will most likely occur when the OMEGAVIEW® region is shutting down. If it occurs at other times, examine the log for other error messages and contact IBM® Software Support.

### **Message Type**

Information.

## **KMVCCC013I: KMVCCC SERVICE THREAD SHUTTING DOWN**

### **Explanation**

The KMVCCC service thread is shutting down.

### **System action**

Processing continues.

### **User response**

This message will most likely occur when the OMEGAVIEW® region is shutting down. If it occurs at other times, examine the log for other error messages and contact IBM® Software Support.

### **Message Type**

Information.

## **KMVCCC014E: UNABLE TO INITIALIZE NODE STATUS THREAD**

### **Explanation**

An error occurred while initializing the thread that monitors the Tivoli Enterprise™ Monitoring Server hub for changes in node status.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC015E: UNABLE TO ATTACH NODE STATUS THREAD****Explanation**

An error occurred while starting the thread that monitors the Tivoli Enterprise™ Monitoring Server hub for changes in node status.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC016E: UNABLE TO INITIALIZE SITUATION STATUS THREAD****Explanation**

An error occurred while initializing the thread that monitors the hub for changes in node status.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC017E: UNABLE TO ATTACH SITUATION STATUS THREAD****Explanation**

An error occurred while starting the thread that monitors the Tivoli Enterprise™ Monitoring Server hub for changes in node status.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC018E: UNABLE TO INITIALIZE EIB CHANGE THREAD**

### **Explanation**

An error occurred while initializing the thread that monitors the Tivoli Enterprise™ Monitoring Server hub for changes in node status.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC019E: UNABLE TO ATTACH EIB CHANGE THREAD**

### **Explanation**

An error occurred while starting the thread that monitors the Tivoli Enterprise™ Monitoring Server hub for changes in node status.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC021E: ERROR return\_code TRYING TO ADD SITUATION EVENT**

### **Explanation**

Return\_code was received while processing a situation event.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC022E: INVALID MANAGED OBJECT DEFINITION, NO TEMPLATE**

### **Explanation**

A managed object definition without a template specification was retrieved from the Tivoli Enterprise™ Monitoring Server hub.

### **System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Error.

**KMVCCC023E: NO SDM INTERFACE AVAILABLE****Explanation**

There is no interface to the Status Data Manager (SDM).

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Error.

**KMVCCC024E: ERROR *return\_code* TRYING TO CREATE MESSAGE QUEUE****Explanation**

*return\_code* was received while creating a message queue for internal communications.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC025E: ERROR *return\_code* TRYING TO DESTROY MESSAGE QUEUE****Explanation**

*return\_code* was received while deleting an internal communications message queue.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC026E: ERROR *return\_code* TRYING TO ADD MESSAGE TO QUEUE**

### **Explanation**

*return\_code* was received while adding a message to an internal communications message queue.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC027E: ERROR *return\_code* TRYING TO GET MESSAGE FROM QUEUE**

### **Explanation**

*return\_code* was received while getting a message from an internal communications message queue.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC028I: SHUTDOWN DETECTED**

### **Explanation**

Shutdown of the OMEGAVIEW® address space has been detected.

### **System action**

Shutdown continues and shutdown of the KMVCCC component is initiated.

### **User response**

None.

### **Message Type**

Information.

## **KMVCCC029: KMV\_CCC ENVIRONMENT VARIABLE = *value* -- SUPPORT NOT ENABLED**

### **Explanation**

The KMVCCC environment is not enabled. When specifying OMEGAVIEW® configuration values when you use the Configuration Software, the parameter **Display CCC Alerts?** was not specified as **Yes**. The KMV\_CCC environment variable shows the value specified.

### **System action**

Processing continues, but the KMVCCC component will not be activated.

**User response**

None.

**Message Type**

Information.

**KMVCCC030E: UNABLE TO CREATE DIALOG ENVIRONMENT FOR KMVCCC SERVICE THREAD****Explanation**

An internal error occurred that will prevent the creation of the OMEGAVIEW® panel to represent the enterprise.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC031I: KMVCCC SUPPORT INITIALIZATION IS COMPLETE****Explanation**

The KMVCCC component is fully initialized.

**System action**

Processing continues.

**User response**

None.

**Message Type**

Confirmation.

**KMVCCC032I: KMVCCC SHUTDOWN COMPLETE****Explanation**

Shutdown of the KMVCCC component is complete.

**System action**

None.

**User response**

None.

**Message Type**

Confirmation.

## **KMVCCC033E: ERROR *return\_code* WHILE FETCHING DATA FROM HUB**

### **Explanation**

*return\_code* was received while retrieving data from the Tivoli Enterprise™ Monitoring Server hub.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC034E: ERROR *return\_code* INITIALIZING THREAD ATTRIBUTE**

### **Explanation**

*return\_code* was received while initializing a thread attribute.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC035E: ERROR *return\_code* TRYING TO CREATE NEW THREAD**

### **Explanation**

*return\_code* was received while creating a new thread.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC036E: UNABLE TO ATTACH SDM SERVICE THREAD**

### **Explanation**

An error occurred while starting the Status Data Manager (SDM) service thread.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC037E: UNABLE TO CREATE DIALOG ENVIRONMENT FOR SDM SERVICE THREAD****Explanation**

An internal error occurred that prevents the creation of the Status Data Manager (SDM) interface.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC038E: ERROR *return\_code* CREATING NEW STATUS ITEM item****Explanation**

*return\_code* was received while creating the specified status item.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC039E: ERROR *return\_code* OPENING STATUS ITEM item****Explanation**

*return\_code* was received while opening the specified status item.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC040E: ERROR *return\_code* EMITTING VALUE TO ITEM item****Explanation**

*return\_code* was received while emitting a value to the specified status item.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC041E: ERROR *return\_code* UPDATING RULE FOR ITEM item****Explanation**

*return\_code* was received while updating the rule for the specified status item.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC042E: ERROR *return\_code* CLOSING STATUS ITEM item****Explanation**

*return\_code* was received while closing the specified status item.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC043E: ERROR *return\_code* DESTROYING STATUS ITEM item****Explanation**

*return\_code* was received while deleting the specified status item.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC044E: INVALID REQUEST *request\_code* RECEIVED BY SDM SERVICE**

### **Explanation**

The Status Data Manager (SDM) service received an invalid request, *request\_code*.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC045E: INVALID REQUEST *request\_code* RECEIVED BY KMVCCC SERVICE**

### **Explanation**

The KMVCCC service received an invalid request, *request\_code*.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC046E: ERROR *return\_code* CREATING SDM SESSION**

### **Explanation**

*return\_code* was received while trying to create the Status Data Manager (SDM) session.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC047E: UNABLE TO CREATE LOGICAL RESOURCE**

### **Explanation**

It was not possible to initialize a logical resource for use by the KMVCCC support component.

### **System action**

The current request is terminated. Candle® Command Center alerts will not be available.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC048E: UNABLE TO PROTECT LOGICAL RESOURCE****Explanation**

It was not possible to protect the logical resource used by the KMVCCC support component.

**System action**

The current request is terminated. Candle® Command Center alerts will not be available.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC049E: CONSTRUCTION OF SQL REQUEST OBJECT FAILED****Explanation**

An SQL request object failed to initialize properly.

**System action**

The current request is terminated. Candle® Command Center alerts will not be available.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC050E: ERROR *return\_code* FROM SQL OPEN REQUEST****Explanation**

*return\_code* was received when opening an SQL request.

**System action**

The current request is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC051E: ERROR *return\_code* FROM SQL FETCH REQUEST**

### **Explanation**

*return\_code* was received when fetching rows from an SQL request.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC052E: UNABLE TO LOCATE object MANAGED OBJECT**

### **Explanation**

It was not possible to locate the specified managed object while fetching initial attributes.

### **System action**

The current request is terminated.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC053E: NO CHILDREN FOUND FOR THE ENTERPRISE**

### **Explanation**

While constructing the initial view of the Candle® Command Center Enterprise, no subordinate managed objects were found.

### **System action**

The current request is terminated. Candle® Command Center alerts will not be available.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC054E: ABEND DETECTED IN THREAD ROUTINE**

### **Explanation**

An abend was detected in a thread routine.

### **System action**

The thread is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC055E: ERROR *return\_code* TRYING TO SUBMIT SDM SERVICE REQUEST****Explanation**

An error was encountered while submitting a request to the Status Data Manager (SDM) server.

**System action**

The current request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC056E: ERROR *return\_code* TRYING TO ADD ROW TO EVENTS TABLE****Explanation**

An error was encountered while adding a row to the events table for a managed object.

**System action**

The current request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC057E: ERROR *return\_code* TRYING TO OPEN THE EVENTS TABLE****Explanation**

An error was encountered while opening the event table for a managed object.

**System action**

The current request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC058E: UNABLE TO LOCATE EVENT FOR SITUATION *situation\_name*  
ON NODE *node\_name***

**Explanation**

No event entry could be found for the specified situation/node combination while fetching initial attributes.

**System action**

The current request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC059W: ATTRIBUTE NAME TRANSLATION CANNOT BE PERFORMED**

**Explanation**

The attribute dictionary is unavailable to perform attribute name translation while fetching initial attributes for a situation event.

**System action**

The attribute display will show the untranslated column names.

**User response**

Examine TLVLOG for messages during start-up that might explain why the attribute dictionary was not built.

**Message Type**

Internal error.

**KMVCCC060E: ERROR *return\_code* TRYING TO TRANSLATE® ATTRIBUTE  
NAME *attr***

**Explanation**

An error occurred while translating the specified attribute.

**System action**

The attribute display will show the untranslated column name.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC100E: UNABLE TO OPEN DDNAME RKANDATV OPENDIR**

**Explanation**

An error occurred when opening the directory for the partitioned data set allocated to ddname RKANDATV.

**System action**

Processing of ddname RKANDATV is terminated. Candle® Command Center alerts will not be available.

**User response**

Check the RKANDATV DD statement in the OMEGAVIEW® started task JCL. Verify that the proper runtime data set is allocated and that security authorization for read access is granted to the OMEGAVIEW® started task.

**Message Type**

User error.

**KMVCCC101I: READDIR ERROR RC=*nnn*****Explanation**

An error or end of directory condition was detected when reading the directory of the partitioned data set allocated to ddname RKANDATV. *nnn* is the numeric return code issued by the internal I/O service routine.

**System action**

Processing of ddname RKANDATV continues.

**User response**

None.

**Message Type**

Information.

**KMVCCC102E: OPENFILE ERROR ON RKANDATV(*member*) RC=*rc*****Explanation**

An error occurred while opening the specified member of the partitioned data set allocated to ddname RKANDATV. *Rc* is the return code issued by the internal I/O service routine.

**System action**

Processing of ddname RKANDATV is terminated. Candle® Command Center alerts will not be available.

**User response**

Check the RKANDATV DD statement in the OMEGAVIEW® started task JCL. Verify that the proper runtime data set is allocated and that security authorization for read access is granted to the OMEGAVIEW® started task. Also ensure that the data set directory is not corrupted and the data set was not being updated while OMEGAVIEW® was reading it.

**Message Type**

User error.

**KMVCCC103I: RKANDATV(*member*) RECORD=*data*****Explanation**

An input record was successfully read from the specified member of the RKANDATV data set. Data shows the contents of the record fetched from the RKANDATV member.

**System action**

Processing of the RKANDATV DDNAME continues.

**User response**

None.

**Message Type**

Information.

**KMVCCC104I: RKANDATV(*member*) *state*****Explanation**

A parser state changed after processing an input record read from the RKANDATV data set. *member* is the member name from which the record was read. *state* is the state entered after parsing the new input record.

**System action**

Processing of ddname RKANDATV continues.

**User response**

None.

**Message Type**

Information.

**KMVCCC105W: DUPLICATE COLUMN=*colname* FOR ATTRIBUTE=*attrname* IN  
RKANDATV(*member*) LINE=*nnn*****Explanation**

A duplicate entry for an existing attribute was found. *colname* is the column name. *attrname* is the attribute name. *member* is the member where the duplicate entry was found. *nnn* is the record number within the member.

**System action**

The duplicate entry is ignored and processing continues.

**User response**

None.

**Message Type**

Internal warning.

**KMVCCC106I: ATTRIBUTE CREATED FOR COLUMN=*colname*****Explanation**

A new attribute definition entry was successfully added to the attribute dictionary. *colname* is the column name associated with the new dictionary entry.

**System action**

Processing of the ddname RKANDATV continues.

**User response**

None.

**Message Type**

Confirmation.

## **KMVCCC107I: RKANDATV(*member*) tag=*value***

### **Explanation**

An attribute definition value was successfully parsed from the current input record read from the RKANDATV data set. *member* is the member name from which the value was parsed. Tag is the type of data found in the input record. Value is the value of the data parsed from the input record.

### **System action**

Processing of ddname RKANDATV continues.

### **User response**

None.

### **Message Type**

Confirmation.

## **KMVCCC108I: RKANDATV(*member*) tag=*nnn***

### **Explanation**

An attribute definition value was successfully parsed from the current input record read from the RKANDATV data set. *member* is the member name from which the value was parsed. Tag is the type of data found in the input record. *nnn* is the numeric value parsed from the input record.

### **System action**

Processing of ddname RKANDATV continues.

### **User response**

None.

### **Message Type**

Confirmation.

## **KMVCCC109W: DUPLICATE VALI=*input* FOR VALE=*output* IN RKANDATV(*member*) LINE=*nnn***

### **Explanation**

A duplicate entry for an attribute translation value was found. *input* and *output* are the input and output translation values. *member* is where the duplicate entry was found. The record number within the member is *nnn*.

### **System action**

The duplicate entry is ignored and processing continues.

### **User response**

None.

### **Message Type**

Internal warning.

## **KMVCCC110I: ENUM ENTRY CREATED FOR VALI=*input* VALE=*output***

### **Explanation**

A new attribute translation entry was successfully added to the translation table for an attribute. *input* and *output* are the input and output translation values.

### **System action**

Processing of ddname RKANDATV continues.

### **User response**

None.

### **Message Type**

Information.

## **KMVCCC111E: UNABLE TO ALLOCATE ATTRIBUTE ENTRY**

### **Explanation**

Storage allocation for a new attribute dictionary entry has failed.

### **System action**

Processing continues to the next attribute definition entry in the current member of the RKANDATV data set.

### **User response**

A low storage condition can be the cause of this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. Contact IBM® Software Support if storage limits cannot be increased.

### **Message Type**

Internal error.

## **KMVCCC112E: UNABLE TO CREATE COLUMN KEY=*table.colname***

### **Explanation**

An error occurred while allocating storage for an attribute dictionary key. *Table* is the name of the table and *colname* is the column name of the attribute key.

### **System action**

Processing continues to the next attribute definition entry in the current member of the RKANDATV data set.

### **User response**

A low storage condition can be the cause of this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. If storage limits cannot be increased, contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC118E: ERROR *return\_code* ADDING ROW TO TABLE *table***

### **Explanation**

An error was encountered while adding a row to the table.

**System action**

The current request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC119E: ERROR *return\_code* OPENING TABLE *table*****Explanation**

An error was encountered while opening the table.

**System action**

The current request is ignored.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC120W: DUPLICATE ATTRIBUTE=*attrname* FOR COLUMN=*colname*****Explanation**

A duplicate entry for an existing attribute was found for the named column and attribute.

**System action**

The duplicate entry is ignored and processing continues.

**User response**

None.

**Message Type**

Internal warning.

**KMVCCC121E: UNABLE TO CREATE ATTRIBUTE=*attrname*****Explanation**

An error occurred while allocating attribute dictionary entry storage for the named attribute.

**System action**

Processing continues to the next attribute definition entry in the current member of the RKANDATV data set.

**User response**

A low storage condition can cause this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. If storage limits cannot be increased, contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC122I: ENTRY CREATED FOR ATTRIBUTE=*attrname***

### **Explanation**

A new attribute definition entry was successfully added to the attribute dictionary. *attrname* is the attribute name associated with the dictionary entry.

### **System action**

Processing of the ddname RKANDATV continues.

### **User response**

None.

### **Message Type**

Confirmation

## **KMVCCC123E: UNABLE TO LOCATE SITUATION: *sitname***

### **Explanation**

The named situation could not be found.

### **System action**

The current request is ignored.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC124E: ERROR *return\_code* ADDING ROW TO NODE DISPLAY TABLE**

### **Explanation**

An error was encountered while adding a row to the table.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC125E: UNABLE TO ALLOCATE NODE STATUS**

### **Explanation**

An error occurred while allocating storage for a node status object.

### **System action**

Processing continues.

### **User response**

A low storage condition can cause this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. If storage limits cannot be increased, contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC126E: UNABLE TO ALLOCATE ATTRIBUTE ENUMERATION****Explanation**

An error occurred while allocating storage for an attribute enumeration list.

**System action**

Processing continues.

**User response**

A low storage condition can cause this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. If storage limits cannot be increased, contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC127E: UNABLE TO ALLOCATE COMMAND NODE ENTRY****Explanation**

An error occurred while allocating storage for a command node entry.

**Explanation**

A low storage condition can cause this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. If storage limits cannot be increased, contact IBM® Software Support.

**System action**

Processing continues.

**Message Type**

Internal error.

**KMVCCC128E: UNABLE TO ALLOCATE NODE LIST****Explanation**

An error occurred while allocating storage for a node list.

**System action**

Processing continues.

**User response**

A low storage condition can cause this error. Increase the address space virtual storage region or other storage tuning limits for the OMEGAVIEW® address space. If storage limits cannot be increased, contact IBM® Software Support.

**Message Type**

Internal error.

## **KMVCCC130E: CONNECTION TO TEMS UNAVAILABLE**

### **Explanation**

An attempt to access data from a Tivoli Enterprise™ Monitoring Server has failed because the communication link between OMEGAVIEW® and the Tivoli Enterprise™ Monitoring Server address space has failed.

### **System action**

CCC/3270 operations indicate that no data was available for the requested function and panels display no data.

### **User response**

Determine why the Tivoli Enterprise™ Monitoring Server connection has failed.

### **Message Type**

Error.

## **KMVCCC131E: ALLTYPE *type* NOT SUPPORTED**

### **Explanation**

An attempt to access a console from CCC/3270 has failed because the type of object used to determine the list of associated consoles could not be determined or is not one of those supported. The invalid object type is indicated by *type*.

### **Explanation**

Contact IBM® Software Support.

### **System action**

The access console operation ends in error and no consoles are displayed or selectable.

### **Message Type**

Internal error.

## **KMVCCC132E: ERROR *rc* TRYING TO ADD ROW TO TEMP CONSOLE TABLE**

### **Explanation**

An attempt to add a new row to an internal console table has failed, where *rc* is the error return code issued by table add services.

### **System action**

The access console operation ends in error and no consoles are displayed or selectable.

### **User response**

Contact IBM® Software Support.

### **Message Type**

Internal error.

## **KMVCCC133E: ERROR *rc* TRYING TO OPEN THE TEMP CONSOLE TABLE**

### **Explanation**

An attempt to create a temporary internal console table has failed, where *rc* is the error return code issued by table creation services.

**Explanation**

Contact IBM® Software Support.

**System action**

The access console operation ends in error and no consoles are displayed or selectable.

**Message Type**

Internal error.

**KMVCCC134E: UNABLE TO ALLOCATE MANAGED SYSTEM LIST FOR *objname*****Explanation**

An attempt to allocate storage for the list of managed systems has failed. The error can occur when storage shortages occur in the OMEGAVIEW® address space. *objname* is the object associated with the managed system list.

**System action**

The access console operation ends in error and no consoles are displayed or selectable.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KMVCCC135W: NO MANAGED SYSTEMS FOUND FOR *moname*****Explanation**

An attempt to determine the managed systems list for a selected managed object has failed. A null list of managed systems was defined for the managed object indicated by *moname*.

**System action**

The access console operation ends in error and no consoles are displayed or selectable.

**User response**

Update the managed object by locating the managed object in the Candle® Management Workstation Enterprise container and then selecting Settings.

**Message Type**

Warning.

**KMVCCC150E: Error processing predicate: *pdt*****Explanation**

An error occurred processing the situation predicate.

**System action**

The user is prevented from editing the situation.

**User response**

Use the Candle® Management Workstation editor to determine the nature of the error.

## Message Type

Error.

## KOB messages

Messages that begin with the KOB prefix are associated with the OMEGAMON Enhanced 3270 User Interface, which is part of the OMEGAMON Base component; Parameter Generator (PARMGEN); or Configuration Manager.

- Messages for the OMEGAMON Enhanced 3270 User Interface:
  - [“KOBBC – KOBO messages” on page 1941](#)
  - [“KOBRR – KOBUR messages” on page 2025](#)
- Messages for Parameter Generator (PARMGEN) or Configuration Manager:
  - [“KOBPR messages” on page 2016](#)

### KOBBC – KOBO messages

These messages are associated with the OMEGAMON enhanced 3270 user interface, which is part of the OMEGAMON Base component. By default, trace and error logs are created in SYSPRINT. (An alternate log location may have been specified, using standard JCL services.) Most of the messages are prefixed by a timestamp and thread ID.

#### **KOBC0000E: Unable to locate an important internal control block. Contact IBM technical support.**

##### **Explanation**

The address space cannot continue to process because of an internal error that resulted in the inability to find an internal control block.

##### **System action**

The address space terminates.

##### **User response**

Try one time to restart the address space. If the attempt fails, collect dump and log information and contact IBM Software Support.

#### **KOBC00001E: Job or system level memory limit (MEMLIMIT) exceeded.**

##### **Explanation**

z/OS has refused a request for virtual storage for this address space step. The reason information returned by z/OS indicates that the request would have exceeded the MEMLIMIT value for the step.

##### **System action**

The address space continues, but may not function correctly.

##### **User response**

Verify that MEMLIMIT=NOLIMIT is coded on the address space EXEC statement within the started task or job JCL, or increase the step EXEC MEMLIMIT value. (See the documentation for SYS1.PARMLIB member SMFPRMxx, or the *z/OS JCL Reference* for an explanation of MEMLIMIT.)

#### **KOBC00002E: Error attempting key change. This step must be APF authorized.**

##### **Explanation**

This program requires APF authorization.

**System action**

The address space is terminated.

**User response**

Ensure that all libraries concatenated as part of the STEPLIB DD (in the JCL) are APF authorized.

**KOBC00003E: Must be APF authorized.****Explanation**

This program requires APF authorization.

**System action**

The address space is terminated.

**User response**

Ensure that all libraries concatenated as part of the STEPLIB DD (in the JCL) are APF authorized.

**KOBC00004E: Job or system level memory limit (MEMLIMIT) exceeded.****Explanation**

z/OS has refused a request for virtual storage for this address space step. The reason information returned by z/OS indicates that the request would have exceeded the MEMLIMIT value for the step.

**System action**

The address space continues, but may not function correctly.

**User response**

Verify that MEMLIMIT=NOLIMIT is coded on the address space EXEC statement within the started task or job JCL, or increase the step EXEC MEMLIMIT value. (See the documentation for SYS1.PARMLIB member SMFPRMxx, or the *z/OS JCL Reference* for an explanation of MEMLIMIT.)

**KOBC00004I: reserved for later use****KOBC00005I: reserved for later use****KOBC00006E: Unable to create recovery environment. Thread terminates.****Explanation**

The thread management functions were unable to establish a recovery environment during thread creation.

**System action**

The new thread is not created.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00007E: Freeing of lock failed in kob\_TCB\_Thread\_Base(), rc=return\_code, errno=error\_number, rsno=error\_reason.****Explanation**

The thread management functions were unable to free a lock during thread creation, for the reasons indicated in the message.

**System action**

The new thread is not created.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00008E: Sib-lock build failure in pthread\_create(). rc=*n*, errno=*x*, rsnn=*y*.**

**Explanation**

The thread management functions were unable to build a lock during thread creation, for the reasons indicated in the message.

**System action**

The new thread is not created.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00009E: Sib-lock failure in pthread\_create(). rc=*n*, errno=*x*, rsnn=*y*.**

**Explanation**

The thread management functions were unable to obtain a lock during thread creation, for the reasons indicated in the message.

**System action**

The new thread is not created.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00010E: Sib-unlock failure in pthread\_create(). rc=*n*, errno=*x*, rsnn=*y*.**

**Explanation**

The thread management functions were unable to free a lock during thread creation, for the reasons indicated in the message.

**System action**

The address space terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00011E: Sib-lock failure in pthread\_detach(). rc=*n*, errno=*x*, rsnn=*y*.**

**Explanation**

The thread management functions were unable to free a lock during thread detach, for the reasons indicated in the message.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00012E: Lock release failure in pthread\_detach(). rc=*n*, errno=*x*, rsno=*y*.**

**Explanation**

The thread management functions were unable to release locking resources during thread detach, for the reasons indicated in the message.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00013E: Child not found in pthread\_detach() of %016IX.**

**Explanation**

The detachment of a created thread was requested, but the thread was found to be already detached.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00014E: Sib-unlock failure in pthread\_detach(). rc=*n*, errno=*x*, rsno=*y*.**

**Explanation**

The thread management functions were unable to free a lock during thread detach.

**System action**

The address space terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00015E: Lock build failure in pthread\_create(). rc=*return\_code*,  
errno=*error\_number*, rsno=*error\_reason*.**

**Explanation**

The thread management functions were unable to build a lock during thread create.

**System action**

The new thread is not created.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00016E: Lock obtain failure in pthread\_create(). rc=*return\_code*,  
errno=*error\_number*, rsno=*error\_reason*.**

**Explanation**

The thread management functions were unable to obtain a lock during thread create.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00017E: Add2Sibling Chain failure in pthread\_create(). rc=*n*, errno=*x*, rsnnno=*y*.**

**Explanation**

The thread management functions were unable to update internal linkages to add a new thread.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00018E: pthread\_create() failure. rc=*n*, errno=*error\_code*, rsnnno=*error\_reason*.**

**Explanation**

The thread management functions were unable to create a new thread.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00019E: lock cleanup failure in pthread\_create(). rc=*return\_code*, errno=*error\_number*, rsnnno=*error\_reason*.**

**Explanation**

The thread management functions were unable to clean up a lock during thread creation.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00020E: Sibling cleanup failure in pthread\_create(). rc=*n*, errno=*x*, rsnnno=*y*.**

**Explanation**

The thread management functions were unable to insert a sibling thread during thread create.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00021E: Lock destroy failure in pthread\_detach(). rc=*n*, errno=*x*, rsnnno=*y*.**

**Explanation**

The thread management functions were unable to clean up a lock during thread detach.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00022E: Child cleanup failed in pthread\_detach(). rc=*return\_code*,  
errno=*error\_number*, rsnno=*error\_reason*.**

**Explanation**

The thread management functions were unable to remove a sub-thread during thread detach.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00023E: Unable to obtain thread end lock in pthread\_join. rc=*return\_code*,  
errno=*error\_number*, rsnno=*error\_reason***

**Explanation**

An attempt to wait for completion of another thread failed.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00024E: pthread\_detach() failed in pthread\_join(). rc=*return\_code*,  
errno=*error\_number*, rsnno=*error\_reason***

**Explanation**

An attempt to release thread resources after waiting for a thread to complete failed.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBC00025E: Unable to free thread end lock in pthread\_join. rc=*return\_code*,  
errno=*error\_number*, rsnno=*error\_reason***

**Explanation**

The thread management functions were unable to clean up a lock after waiting for a thread to complete.

**System action**

The thread terminates.

**User response**

Collect dump, trace, and system log data. Report the problem to IBM Software Support.

**KOBCM0001E: Create thread for kobcmsrv failed, pthreadstatusI = x**

**Explanation**

The conduit manager attempt to create a query server thread, kobcmsrv, has failed with return code x.

**System action**

No queries can be processed.

**User response**

Restart the enhanced 3270 user interface address space. If the problem persists, call IBM Software Support.

**KOBCM0001I: nnnnnnnn uuuuuuuu. Compiled on x at y.**

**Explanation**

The running copy of module *nnnnnnnn* at Program Temporary Fix (PTF) level *uuuuuuuu* was compiled on date *x* and time *y*.

**System action**

None.

**User response**

Note this PTF for any questions related to query processing within the OMEGAMON Enhanced 3270 User Interface.

**KOBCM0002E: Create thread for kobcmdmt failed, pthreadstatusI = n**

**Explanation**

The conduit manager attempt to create a discovery manager thread, kobcmdmt, has failed with return code *n*.

**System action**

No queries can be processed.

**User response**

Restart the enhanced 3270 user interface address space. If the problem persists, call IBM Software Support.

**KOBCM0003E: Create thread for kobcmdpt failed, pthreadstatusI = *return\_code***

**Explanation**

The conduit manager attempt to create a discovery manager thread, kobcmdpt, has failed with return code *return\_code*.

**System action**

No queries can be processed.

**User response**

Restart the enhanced 3270 user interface address space. If the problem persists, call IBM Software Support.

**KOBCM0004E: Create thread for kobcmsrv failed, pthreadstatusI = *return\_code***

**Explanation**

The conduit manager attempt to create a query server thread, kobcmsrv, has failed with return code *return\_code*.

**System action**

No queries can be processed.

### User response

Restart the enhanced 3270 user interface address space. If the problem persists, call IBM Software Support.

### **KOBCM0005E: Create thread for kobcmmnt failed, pthreadstatusI = *return code*.**

#### Explanation

The Conduit Manager attempt to create a maintenance processing thread, kobcmmnt, has failed with return code *return code*.

#### System action

No maintenance can be performed.

### User response

Re-start the Tivoli OMEGAMON address space. If the problem persists call IBM support.

### **KOBCM0006E: Create thread for kobcmndt failed, pthreadstatusI = *return\_code* + *extended diagnostics context*.**

#### Explanation

The Conduit Manager attempt to create a maintenance worker/ processing thread, kobcmndt, has failed with return code = *return\_code*.

#### System action

No maintenance can be performed.

### User response

Re-start the Tivoli OMEGAMON address space. If the problem persists call IBM support.

### **KOBCM0010E: Conduit manager Recv Error, rc = *return\_code*, retry = *n*, microseconds = *y+extended diagnostics error and context***

#### Explanation

An IP socket recv() function call ended badly. The return code is *return\_code*, the elapsed duration of the receive attempt is *y*. The errno and errno2 values in the extended data can help clarify what receive error occurred. If the errno is retry-able, like EINTR, EWOULDBLOCK, or EAGAIN, then *retry = n* gives the count of retries done. Many of the conduit manager error messages are followed by extended diagnostic information. This information is intended to help users determine the context of the failing query, where:

#### **errno and errno2**

Are further error codes beyond the return code from many system services. When present, the additional codes can help isolate the exact nature of the problem. Since the conduit manager (CM) can be in simultaneous conversation with several data retrieval agents (DRAs) associated with several different hub environments, the following data will help identify just which query to which DRA has encountered a problem.

#### **Target Hub**

Is the hub environment of the DRA involved in this query.

#### **DRA IP**

Is the IP address of the LPAR where the DRA is running.

#### **DRA jobname**

Is the name of the address space where the DRA used is running.

#### **DRA Port**

Is the port number this DRA is listening to.

#### **Sequence #**

Is a unique identifier for this query transaction.

#### **Query**

Is the text string of the query in question.

### **System action**

No further results are processed for this query.

### **User response**

Verify that the partner data retrieval agent (DRA) is okay by inspecting its RKLVLLOG messages. If the errno value is EWOULDBLOCK, it is likely that the query timed out. Compare the microseconds value to the value found in the most recent log message KOBCM0066I, KOBCM0068I, KOBCM0081I, or KOBCM0083I. If the microseconds in this message are slightly longer than the timeout value, in seconds, found in the most recent preceding message, then the query took too long to process.

If the microseconds values are similar to that found in the most recent KOBCM0066I or KOBCM0068I message, you can try increasing the timeout value using command `"/F tom, SO_TIMEOUT x"` to change the timeout value, where *x* is the timeout in seconds and *tom* is the name of the enhanced 3270 address space. You can try increasing the timeout value to see if that resolves the problem.

If the microseconds values are similar to that found in the most recent KOBCM0081I or KOBCM0083I, you can try increasing the timeout value using command `"/F tom, DIS_TIMEOUT x"` to change the timeout value, where *x* is the timeout in seconds, *tom* is the name of the enhanced 3270 address space. Retry the query.

If the problem persists, restarting either the enhanced 3270 user interface or the DRA address space might help.

## **KOBCM0011E: Conduit Mgr Recv Error - Bad Length, is *x* should be *y* +extended diagnostics error and context**

### **Explanation**

The enhanced 3270 user interface address space is expecting to receive *x* bytes, but instead received *y* bytes.

### **System action**

No further results are processed for this query.

### **User response**

Try the query again. If the problem persists, look for connection problems with the data retrieval agent (DRA) identified in the extended diagnostics.

## **KOBCM0012E: read\_response(), recvbuf storage not obtained. + size requested is *x* +extended diagnostics error and context**

### **Explanation**

Buffer storage to receive result rows for this query could not be obtained. The storage size requested is *x*

### **System action**

No further results are processed for this query.

### **User response**

Retry the query. If the problem persists, recycle the enhanced 3270 user interface address space and, if needed, the data retrieval agent address space. Call IBM Software Support if recycling does not resolve the problem.

## **KOBCM0013E: Block Length Error, tries = *n* + should be *x* , but is *y* +extended diagnostics error and context**

### **Explanation**

The received block length, *y*, does not match the expected block length, *x*. It is likely that a connection failure occurred. If the failure type in the extended diagnostics was retryable, such as EINTR, EAGAIN, or EWOULDBLOCK, then *tries = n* indicates how many retries were made before accepting the error.

### **System action**

No further results are processed for this query.

### **User response**

Retry the query. If the problem persists, use the extended context data to determine the data retrieval agent (DRA) involved in the conversation. Look for further error indications from this DRA in its RKLVLLOG.

### **KOBCM0014E: Length Error + Block Length is $x$ + Block Length should be greater than record length which is $y$ +extended diagnostics error and context**

#### **Explanation**

The received block length is  $x$ . This is less than the expected size ( $y$ ) of the record length contained in this block. This should never occur.

#### **System action**

No further results are processed for this query.

### **User response**

Retry the query. If the problem persists, recycle the enhanced 3270 user interface address space and, if needed, the data retrieval agent address space. If recycling fails to resolve the problem, call IBM Software Support.

### **KOBCM0015E: Total of record lengths exceed the block length. Block Length is $x$ Total record lengths are $y$ +extended diagnostics error and context**

#### **Explanation**

The sum of the received record lengths exceeds the block size. This should not occur.

#### **System action**

No further results are processed for this query.

### **User response**

Retry the query. If the problem persists, recycle the enhanced 3270 user interface address space and, if needed, the data retrieval agent address space. If recycling fails to resolve the problem, call IBM Software Support.

### **KOBCM0016E: Unknown Rec-Type in response. Record Type received is $protocol\_type$ +extended diagnostics error and context**

#### **Explanation**

The record type found in the received data ( $protocol\_type$ ) is not recognized as a valid record type.

#### **System action**

No further results are processed for this query.

### **User response**

Inspect the IP address and port number in the extended diagnostic data and verify this is a valid LPAR connection.

### **KOBCM0017E: KOBCM17E: Error condition in DRA. Failed Function is $function\_name$ +extended diagnostics error and context**

#### **Explanation**

The data retrieval agent (DRA) involved found something wrong with the query involved in this transaction. The specific SQL1 operation that failed is  $function\_name$ .

#### **System action**

No further results are processed for this query.

**User response**

Inspect the query text looking for SQL syntax errors. If this is a user-supplied query, ensure that all the column names are spelled correctly. Often the RKLVLLOG of the Tivoli Enterprise Monitoring Server managing the DRA involved will have helpful diagnostic information. Repair the query and retry the operation.

**KOBCM0018E: KOBGW\_RR\_CM\_EndOfRows failed, rc = *x* +*extended diagnostics error and context*****Explanation**

The conduit manager component has completed sending rows for a request and is signaling completion to the next component in the path, the request router. The request router is responding with an error condition.

**System action**

No further results are processed for this query.

**User response**

If the problem persists, call IBM Software Support.

**KOBCM0019E: KOBGW\_RR\_CM\_PutDataRow rc = *x* +*Dump of failing row +extended diagnostics error and context*****Explanation**

The conduit manager component encountered an error trying to pass a query result row through the request router on its way to the 3270 screen.

**System action**

No further results are processed for this query.

**User response**

Retry the query. If the problem persists, call IBM Software Support.

**KOBCM0020W: KOBCM20W: Invalid SQL request received & ignored. +*Dump of request header*****Explanation**

The conduit manager received a malformed SQL query header. The “dump” documents the request header involved.

**System action**

The query is bypassed.

**User response**

If the problem persists, call IBM Software Support. Include the full content of this message in your report.

**KOBCM0021E: Failure getting registered DRA. rc = *error\_code* rs = *error\_reason*****Explanation**

The conduit manager attempted to discover the data retrieval agents registered in this Sysplex.

**System action**

No queries will be processed.

**User response**

Use the appropriate version of the z/OS manual *MVS Programming: Workload Management Services* (SA22-7619). Locate the reference section for the IWMSRSRS macro and compare the rc and rs values in this

message with the return and reason codes documented for this macro. If no reasonable resolution is apparent, contact IBM Software Support.

### **KOBCM0022W: Too many hubs. Hub *hub\_name* ignored. More than *nn* hubs managed.**

#### **Explanation**

While discovering data retrieval agents (DRAs), the conduit manager found more hubs active than it can manage. The current limit for hub management is *xx*. Hub name *hub\_name* and all of its DRAs are ignored.

#### **System action**

No new hubs are added to the managed system list.

#### **User response**

No action is required unless a vital Tivoli Enterprise Monitoring Server hub is being ignored. If an important hub is being ignored, consider reducing the number of less important hubs in your environment.

### **KOBCM0023E: KOBGW\_RR\_CM\_GetAnyRequest failed with rc = *return\_code* + *extended diagnostics context***

#### **Explanation**

The conduit manager received a failure notice while waiting for a new query request. The return code is *return\_code*.

#### **System action**

No more requests are processed.

#### **User response**

Restart the enhanced 3270 user interface address space as soon as possible. If the problem persists, call IBM Software Support.

### **KOBCM0024I: Conduit manager retry with alternate DRA + *extended diagnostics error and context***

#### **Explanation**

A failed query is being retried through an alternate data retrieval agent (DRA). The extended diagnostics has a sequence number specifying the exact query instance being retried, the SQL text, and information about the new DRA path selected.

#### **System action**

The query is resubmitted through a different DRA.

#### **User response**

Look for a prior KOBCM0010E message with the same sequence number. Note the DRA used in this failed transaction. If this DRA is frequently seen in failure messages, please recycle the associated Tivoli Enterprise Monitoring Server or OMEGAMON monitoring agent address space at your earliest convenience.

### **KOBCM0025W: DRA candidate *nn* has invalid . . .**

#### **Explanation**

The e3270 address space found a Data Retrieval Agent candidate that had invalid registration information. The variable portion of this message specifies one or more problems noted with the registration:

- “version number of *vvvvvvvv*. Must be string between 6 and 8 characters.”
- “address space name of *nnnnnnnn*. Must be string between 1 and 8 characters.”
- “DRA IP address of *ccccccc*. Must be string between 14 and 22 characters, starting with *::ffff:*”
- “DRA port number of *%d*. Must be number between 1 and 65535.”
- “Sysplex name of *%s*. Must be string between 1 and 8 characters.”

- “SMF ID of %s. Must be string between 1 and 4 characters.”
- “Space Token, %s. Must be string of form xxxxxxxx\_xxxxxxxx”
- “Hub IP address of %s. Must be string between 14 and 22 characters, starting with ::ffff:”
- “Hub port number of %d. Must be number between 1 and 65535.”
- “Hub origin node of %s. Must be string between 1 and 32 characters.”

### **System action**

The candidate DRA is not included in the e3270 address space registry. If this is the only candidate for a hub, then the hub will not be accessible from the e3270 address space.

### **User response**

Call IBM Software Support.

## **KOBCM0026W: Dropped DRA count is xx it should be yy.**

### **Explanation**

The count of DRAs after eliminating troubled DRAs is found to be xx. Instead, the count should have been yy.

### **System action**

The e3270 address space should work properly as long as there are 1 or more DRAs available for the hub.

### **User response**

If this problem persists after the next restart of the e3270 address space, call IBM Software Support.

## **KOBCM0030E: socket create failed, rc = *return\_code* + *extended diagnostics error and context***

### **Explanation**

The conduit manager attempted to allocate a communication socket for use with the data retrieval agent. The attempt failed with return code *return\_code*.

### **System action**

This query is bypassed.

### **User response**

Retry the associated query found in the extended diagnostics. If the problem persists, call IBM Software Support.

## **KOBCM0031E: setsockopt failed, rc = *return\_code* + *extended diagnostics error and context***

### **Explanation**

The conduit manager is attempting to set communication options for this socket conversation with the data retrieval agent. The attempt failed with return code *return\_code*.

### **System action**

This query is bypassed.

### **User response**

Retry the associated query found in the extended diagnostics. If the problem persists, call IBM Software Support.

**KOBCM0032E: invalid ip or port + ip = x port = y + *extended diagnostics error and context***

**Explanation**

The conduit manager has detected that either the IP or port values for the data retrieval agent are incorrect. The incorrect IP or port number is indicated.

**System action**

This query is bypassed.

**User response**

Retry the associated query found in the extended diagnostics. If the problem persists, call IBM Software Support.

**KOBCM0034E: BLDgwDataRq failed, rc = *return\_code* + *extended diagnostics error and context***

**Explanation**

The conduit manager has an internal error constructing the query for the data retrieval agent. Return code is *return\_code*.

**System action**

This query is bypassed.

**User response**

Retry the associated query found in the extended diagnostics. If the problem persists, call IBM Software Support.

**KOBCM0035E: send block failed, rc = *return\_code*, microseconds = *mmm*+ *extended diagnostics error and context***

**Explanation**

The conduit manager send of the query to the data retrieval agent failed. Return code was *return\_code*. The elapsed time for the connect attempt, in microseconds, is *mmm*.

**System action**

This query is bypassed.

**User response**

If the errno value is EWOULDBLOCK, it is likely the query timed out. Compare the microseconds value to the value found in log message KOBCM0066I. If the microseconds in this message are slightly longer than the time-out value, in seconds, found in KOBCM0066I, then the query took too long to process. Try increasing the time-out value to see if that resolves the problem. Use the command "/F *tom*, SO\_TIMEOUT *x*" to change the time-out value, where *x* is the time out in microseconds and *tom* is the enhanced 3270 address space name. Retry the associated query found in the extended diagnostics. If the problem persists, call IBM Software Support.

**KOBCM0036E: EOD send block failed, rc = *return\_code* + *extended diagnostics error and context***

**Explanation**

The conduit manager send of end-of-query indication to the data retrieval agent failed. Return code was *return\_code*.

**System action**

This query is bypassed.

**User response**

Retry the associated query found in the extended diagnostics. If problem persists, call IBM Software Support.

**KOBCM0040E: Discovery manager thread can not create refresh queue, kob\_init\_queue\_header.rc =return\_code+extended diagnostics error and context**

**Explanation**

The conduit manager discovery and refresh of data retrieval agents, hubs, managed system names and managed system lists can not proceed.

**System action**

The local registry is not initialized.

**User response**

Try restarting this address space. If problem persists, call IBM Software Support.

**KOBCM0041E: Maintenance manager thread can not create Maintenance refresh queue, kob\_init\_queue\_header, rc = return\_code.**

**Explanation**

The Conduit Manager Maintenance Thread can not proceed.

**System action**

No Maintenance requests can be created/submitted to the worker thread to do maintenance refresh.

**User response**

Re-start the Tivoli OMEGAMON address space. If the problem persists call IBM support.

**KOBCM0041W: Add discovery refresh request failed. kob\_add\_to\_queue error. rc =return\_code+extended diagnostics error and context**

**Explanation**

An attempt to request a periodic refresh of data retrieval agents, hubs, managed system names and managed system lists failed.

**System action**

The local registry is updated with any recent changes.

**User response**

If this is a recurring problem, call IBM Software Support.

**KOBCM0042E: Wait for periodic refresh failed. rc =return\_code + extended diagnostics error and context**

**Explanation**

An attempt to wait for the configured time period between discovery refresh cycles has failed.

**Note:** This is an extremely unlikely error condition. Basically, it indicates that normal timer services within the LPAR have failed, so the configured registry refresh time period cannot be honored.

**System action**

To prevent looping, the discovery refresh thread suspends periodic refresh and waits for an operator reply to message KOBCEM0043I.

**User response**

Try replying GO to the associated KOBCEM0043I write to operator with reply (WTOR) message found in the LPAR's SYSLOG. If another KOBCEM0043I WTOR appears immediately, then call IBM Software Support.

**KOBCEM0042W: Add Maintenance refresh request from kobcmmnt failed.**

**kob\_add\_to\_queue error rc = *return\_code + extended diagnostics context*.**

**Explanation**

An attempt to request a maintenance refresh failed from the kobcmmnt Maintenance Manager Thread.

**System action**

No maintenance can be performed.

**User response**

If this is a reoccurring problem, call IBM support.

**KOBCEM0043I: Discovery refresh wait failed. Simulate timed wait reply GO or END.****Explanation**

Write to operator with reply (WTOR) message associated with KOBCEM0042E log message.

**System action**

Discovery refresh thread waits for operator reply.

**User response**

Try replying GO to this write to operator with reply (WTOR) message. If another KOBCEM0043I WTOR appears immediately, then call IBM Software Support.

**KOBCEM0043W: Add Maintenance refresh request from myCommandRoutine failed.**

**kob\_add\_to\_queue error rc = *return\_code + extended diagnostics context*.**

**Explanation**

An attempt to request a periodic refresh of ODI/Thresholds failed.

**System action**

Most recent ODI/Thresholds refresh request have not been added.

**User response**

If this is a reoccurring problem, call IBM support.

**KOBCEM0044W: Discovery refresh thread failed to release the refresh queue properly.**

**kob\_destroy\_queue rc = *return\_code + extended diagnostics error and context***

**Explanation**

Discovery refresh thread is terminating. Its attempt to release storage associated with the refresh queue may be orphaned.

**System action**

Thread termination proceeds.

**User response**

If termination of the discovery refresh thread is unexpected, call IBM Software Support.

**KOBCM0045E: Wait for Maintenance refresh failed. sleep rc = *return code* + *extended diagnostics context*.**

**Explanation**

An attempt to wait for the configured time period between maintenance refresh cycles has failed.

**System action**

To prevent looping, the maintenance refresh thread suspends periodic refresh and waits for an operator reply to message KOBCM0045I.

**User response**

Try replying *GO* to the associated KOBCM0045I write to operator with reply (WTOR) message found in LPAR's SYSLOG. If another KOBCM0045I WTOR message appears immediately, then call IBM support.

**KOBCM0045I: Maintenance refresh wait failed. Simulate timed wait reply *GO* or *END*.**

**Explanation**

Write to operator with reply (WTOR) message associated with KOBCM0045E log message.

**System action**

Discovery refresh thread waits for operator reply.

**User response**

Try replying *GO* to this write to operator with reply (WTOR) message. If another KOBCM0045I WTOR message appears immediately, then call IBM support.

**KOBCM0045W: RC = *return code* in DRA = *Data\_Retrieval\_Agent\_name* IP = *IP\_address*, Hub = *hub\_monitoring\_server\_name* (*application\_name.table\_name*)**

**Explanation**

Message KOBCM0045W indicates that the Data Retrieval Agent (KOBAGENT) was contacted from the Tivoli® OMEGAMON® Manager, but an error was detected in the Data Retrieval Agent. This error indicates that a repeat attempt might be successful.

The following return codes are possible:

**RC=5**

The Hub or Remote Tivoli® Enterprise Monitoring Server is not yet available.

**RC=79**

When attempting to delete a table row, the row was not found.

**RC=80**

When attempting to insert a table row, a duplicate row was found.

**RC=155**

A hub or remote monitoring server could not be contacted.

**RC=202**

A TEMS does not contain application support for a particular column.

**RC=209**

A monitoring server does not contain application support for a particular application and table.

**RC=3000**

Historical data does not exist for the requested table.

**RC=9036**

The hub monitoring server is not yet available.

**RC=9037**

SQL SELECT string is too long, rejected by the DRA

**RC=9038**

SQL query contains invalid column name, rejected by the DRA

**RC=9999**

The hub monitoring server is not yet available.

**RC=67109015**

A hub or remote monitoring server could not be contacted.

**RC=67109019**

A Hub or Remote TEMS could not be contacted.

**RC=67109066**

A TEMS does not contain application support for a particular column.

**RC=67109073**

A monitoring server does not contain application support for a particular application and table.

If this message occurs frequently, check the RKLVLLOG for the Data Retrieval Agent that is listed, which might contain more details. If the message indicates that a remote or hub monitoring server is not yet available, confirm that the monitoring server is running and is not out of storage or abending.

**System action**

The query, insertion or deletion fails and any enhanced 3270 user interface workspace that needs the results might be missing data.

**System programmer response**

Check the message details for the particular return code (RC) and take the appropriate action. For example, if the message return code indicates that the monitoring server is not available, check the system to confirm that the monitoring server is running correctly. If the return codes indicate that application support files are missing, apply application support (also known as seeding) to the necessary remote and hub monitoring servers.

**KOBCM0046I: Refresh Hubs(+aaa,-ddd,ttt) DRAs(+aaa,-ddd,ttt)****MSNs(+aaa,-ddd,ttt) MSLs(+aaa,-ddd,ttt), n seconds****Explanation**

A Registry Refresh occurred. As a result of the Registry Refresh, there is a change in the number of hub monitoring servers (Hubs), Data Retrieval Agents (DRAs), Managed System Names (MSNs), or Managed System Lists (MSLs) known to this Tivoli® OMEGAMON® Manager. The values within parentheses indicate the number of added items (*aaa*), the number of deleted items (*ddd*), and the total number of items (*ttt*). The time taken to perform the Registry Refresh is reported in seconds (*n*).

**System action**

None.

**System programmer response**

None.

**KOBCM0047W: Connect failed, Err = *error code* Rsn = *reason\_code*, *nnn* seconds  
Failed for DRA = *Data\_Retrieval\_Agent\_name* IP = *IP\_address*, Hub =  
*hub\_monitoring\_server\_name (application\_name.table\_name)***

### Explanation

Message KOBCM0047W indicates that a TCP/IP connection attempt failed between this Tivoli® OMEGAMON® Manager and a data retrieval agent (DRA). The error and reason codes are displayed in the Err=*nnn* and Rsn=*nnn* fields.

The following examples show some typical return values:

**Err=0 Rsn=0x00000000**

The destination rejected the connection.

**Err=1127 Rsn=0x0000020A**

The connection attempt timed out.

If Err=0 Rsn=0x00000000 is returned, the DRA might either be not running or not reachable due to a TCP/IP firewall between the Tivoli® OMEGAMON® Manager and the DRA.

### System action

No results from the failed query are available, so any enhanced 3270 user interface workspace that needs the results might be missing data.

### System programmer response

For code Err=0 with Rsn=0x00000000, check that the named DRA is both running and not in an abending address space. Check that any firewall between this address space and the DRA address space is configured to allow TCP traffic for the port number in use by the DRA. You can control the port number of the DRA with the POOL:nnnnn modifier in the KDE\_TRANSPORT environmental variable, contained in the KxxENV file for the DRA address space.

**KOBCM0048I: Retry with DRA = *Data\_Retrieval\_Agent\_name* IP = *IP\_address*, Hub =  
*hub\_monitoring\_server\_name (application\_name.table\_name)***

### Explanation

Message KOBCM0048I indicates that an earlier failure occurred between the Tivoli® OMEGAMON® Manager and a Data Retrieval Agent (DRA) and that same operation will be tried again, with a different DRA. See the earlier message for details about the failure.

### System action

The query is being tried again, with a different DRA.

### System programmer response

None.

**KOBCM0049W: Receive failed, Err = *error code* Rsn = *reason\_code*, *nnn* seconds,  
retry = *n* Failed for DRA = *Data\_Retrieval\_Agent\_name* IP = *IP\_address*, Hub =  
*hub\_monitoring\_server\_name (application\_name.table\_name)***

### Explanation

Message KOBCM0049W indicates that a TCP/IP 'receive' failed between this Tivoli® OMEGAMON® Manager and a Data Retrieval Agent (DRA). The error and reason codes are displayed in the Err = *nnn* and Rsn = *nnn* fields. Typical values that you might see include: Err=1102 Rsn=0x76650211 The receive attempt 'timed out'. You can find details about the failure by examining the Rsn value. For example, you can enter the following TSO command to get Rsn code details: bpxmtext 76650211.

### **System action**

No results from the failed query are available, so any enhanced 3270 user interface workspace that needs the results might be missing data.

### **System programmer response**

Check that the named DRA is running and not in an abending address space. If this message repeats frequently, adjust your enhanced 3270UI "Global Query Timeout" value to a larger number of seconds, to allow a longer period for the query to complete. The Global Query Timeout value is found in the Edit->Preferences (E.P) menu, under the Session/Logon tab.

### **KOBCM0050E: kob\_get\_from\_queue failed, rc = *return\_code* + *extended diagnostics error and context***

#### **Explanation**

While selecting discovery refresh requests the conduit manager received a bad return. The failing return code is *x*.

#### **System action**

Discovery refresh requests will no longer be processed by this address space. The current data retrieval agents, hub monitoring server, managed system names and managed system lists will continue to be available for use, but no changes to the connected Hub environments will be recognized.

#### **User response**

Recycle the address space at the next convenient point or when differences between the locally registered information for the connected hub environments is sufficiently outdated to cause concern.

### **KOBCM0051W: Recalled DRA registry data is unreliable. + *dump of registered data retrieval agents***

#### **Explanation**

After several attempts to recall all registered data retrieval agents (DRAs) in the local registry, only partial data was retrieved. The log has a dump of the registered DRAs that were found.

#### **System action**

Discovery refresh processing continues but possibly with incomplete environmental information.

#### **User response**

The enhanced 3270 user interface address space may not be aware of all your monitored environments. If this warning appears repeatedly, recycle the address space. If the warning continues to appear, call IBM Software Support.

### **KOBCM0052E: reqWork too small for MSN sql. Requested size is *x*.**

#### **Explanation**

After several attempts to size the reqWork workarea to hold the SQL for MSN refresh, the required size could not be obtained. The size desired is shown in the message.

#### **System action**

Local registry refresh activities terminate. The enhanced 3270 user interface address space will gradually become out of date with changes to the monitoring agents.

#### **User response**

Recycle the address space as soon as is practical. If this error occurs frequently, call IBM Software Support.

**KOBCM0053E: reqWork too small for MSL sql. Requested size is *x*.**

**Explanation**

After several attempts to size the reqWork workarea to hold the SQL for managed system list (MSL) refresh, the required size could not be obtained. The size desired is shown in the message.

**System action**

Local registry refresh activities terminate. The enhanced 3270 user interface address space will gradually become out of date with changes to the monitoring agents.

**User response**

Recycle the address space as soon as is practical. If this error occurs frequently, call IBM Software Support.

**KOBCM0054E: kobcmndt kob\_get\_from\_queue failed, rc = *return code* + *extended diagnostics context*.**

**Explanation**

While selecting maintenance refresh requests the Conduit Manager received a bad return. The failing return code is *return code*.

**System action**

Maintenance refresh requests will no longer be processed by kobcmndt. This thread will be terminated.

**User response**

The address space should be recycled at the next convenient point.

**KOBCM0054I: Registry Refresh {configured | defaults} to *x* minutes.**

**Explanation**

This documents the local registry refresh cycle that is in use. If the message says "configured," then the value was supplied as configuration parameter REGREF; otherwise, the message says "defaults".

**System action**

Local registry is refreshed periodically at the time interval specified

**User response**

None.

**KOBCM0055W: REGREF configuration variable is *value*. + Valid values are between 1 minute and 1440 minutes. + Default of 5 minutes will be used.**

**Explanation**

Configuration variable REGREF was imported but was not used. *value* documents the value read. Valid values are between 1 and 1440 minutes (1 day).

**System action**

The default of 5 minutes will be used.

**User response**

Correct the REGREF configuration variable to specify a value within the allowed range, or accept the default.

**KOBCM0056W: Get [MSN | MSL] data for hub. Data at address, rc = return\_code + extended diagnostics context + [MSN | MSL] table header**

**Explanation**

Discovery refresh has received a bad return code (*return\_code*) while trying to obtain managed system name (MSN) or managed system list (MSL) information from the specified hub monitoring server. The returned data structure is located at *address*. The extended diagnostics context and the result table header structure are also provided for further diagnosis.

**System action**

This hub's managed system names or managed system lists are not refreshed in the local registry.

**User response**

If this message appears many times, obtain a dump of the enhanced 3270 user interface address space and capture the logs. Call IBM Software Support.

**KOBCM0057I: Registry refresh period reset to n.**

**Explanation**

This message documents the local registry refresh cycle that is now in use as a result of a REGREFRESH command.

**System action**

Local registry is refreshed periodically at the time interval specified.

**User response**

None.

**KOBCM0058I: Registry refresh ccccccc:**

- + Refresh completed in = *n* millisec
- + Hubs currently active = *n*
- + Hubs no longer active = *n*
- + Hubs just added = *n*
- + DRAs currently active = *n*
- + DRAs newly discovered = *n*
- + DRAs removed = *n*
- + DRAs registration errors = *n*
- + MSNs Currently registered = *n*
- + MSNs Newly Registered = *n*
- + MSNs Removed = *n*
- + MSNs Registration errors = *n*
- + MSLs Currently registerd = *n*
- + MSLs Newly Registered = *n*
- + MSLs Removed = *n*
- + MSLs Registration errors = *n*

**Explanation**

This message appears at the end of every registry refresh cycle, both for periodic refreshes and for "on demand" refreshes. *ccccccc* is either "completed" or "statistics". *n* is the time, in milliseconds, used to complete the refresh. If a hub, a data retrieval agent (DRA), managed system (MSN), or managed system list (MSL) is added or

dropped in the recycle, *cccccccc* will be "statistics" and the option statistics will be presented. The option messages document what the registry content is and the registry changes found in the last refresh operation.

**System action**

None.

**User response**

None.

**KOBCM0059I: Maintenance Refresh period reset to *n*.**

**Explanation**

This documents the local maintenance refresh cycle that is now in use. The value was changed by a MNTREFRESH command.

**System action**

ODI or threshold members are refreshed periodically at the time period specified.

**User response**

None.

**KOBCM0059W: No viable DRA, Hub=*hub-name (application-name.table-name)***

**Explanation**

The enhanced 3270 user interface address space has attempted to send an SQL request against table *table-name* in application *application-name* but could not find a suitable Data Retrieval Agent (DRA) associated with the hub *hub-name* to handle the request.

**System action**

The SQL request is not processed.

**User response**

Check the enhanced 3270 user interface address space configuration. Make sure the hub *hub-name* has one or more DRAs associated with it and that the DRAs are running. Check the DRA and Hub filtering settings to make sure the required DRAs are not excluded. If further assistance is required, contact IBM Software Support.

**KOBCM0060I: processing cmd string = *text*.**

**Explanation**

The conduit manager has received command *text*.

**System action**

The conduit manager processes the command.

**User response**

None.

**KOBCM0061I: Trace level for KOBGWCND is *n*.**

**Explanation**

The conduit manager is setting internal trace level to *n*.

**System action**

The conduit manager will start tracing internal activity messages at interest level *n* and lower.

**User response**

Diagnostic tracing for conduit manager can be prolific. Tracing should be done only under the guidance of IBM Software Support.

**KOBCM0062I: Registry refresh period is now *n* minutes.**

**Explanation**

A REGREFRESH command included a valid refresh period value, which is now in effect.

**System action**

The local registry refresh period for the conduit manager is changed to *n*.

**User response**

Short refresh periods can increase CPU utilization for the enhanced 3270 user interface address space. Use caution in setting refresh intervals.

**KOBCM0063I: Maintenance refresh period is now *n* minutes.**

**Explanation**

A MNTREFRESH command included a valid refresh period value.

**System action**

Conduit Manager's Maintenance refresh period is changed to *n*.

**User response**

Short refresh periods can increase CPU utilization for the Tivoli OMEGAMON address space.

**KOBCM0063W: REGREFRESH command specified *value*. + Valid values are between 1 minute and 1440 minutes. + Original period of *n* minutes will be used.**

**Explanation**

Command REGREFRESH specified an out-of-range value of *value*. Valid values are in the range between 1 and 1440 minutes (1 day).

**System action**

The immediate refresh is done, but the refresh interval is not reset.

**User response**

If a new refresh period is desired, reissue the REGREFRESH command to specify a value within the valid range.

**KOBCM0064I: Conduit manager trace level {configured | defaults} to *x*.**

**Explanation**

This message documents the trace level that is in use by the conduit manager. If the message says "configured," then the value was supplied as the configuration parameter TRACE; otherwise, the message says "defaults".

**System action**

Tracing will be done for all standard messages, plus diagnostic messages at level *x* and below.

**User response**

None.

**KOBCM0064W: MNTREFRESH command specified *value*. + Allowed values are between 0 minute and 1440 minutes. + Original period of *n* minutes will be used.**

**Explanation**

Command MNTREFRESH specified an out of range value of *value*. Allowed values are between 0 and 1440 minutes (1 day).

**System action**

The immediate refresh is done. The refresh period, however, is not reset.

**User response**

If a new refresh period is desired, reissue the MNTREFRESH command to specify a value within the allowed range.

**KOBCM0065I: Maintenance Refresh {*configured* | *defaults*} to *x* minutes.****Explanation**

This documents the maintenance refresh cycle that is in use. If the message says *configured* then the value was supplied as configuration parameter MNTREFRESH, otherwise the message says *defaults*.

**System action**

Maintenance thread is refreshed periodically at the time period specified.

**User response**

None.

**KOBCM0065W: TRACE configuration variable is *value*. + Valid values are integers from 0 and up. + Default of *x* minutes will be used.****Explanation**

The configuration variable TRACE was imported, but was not used. The value read, *value*, was not a valid value. Valid values are 0 and up.

**System action**

The specified default of *x* will be used.

**User response**

Correct the TRACE configuration variable to specify a value within the allowed range or accept the default.

**KOBCM0066I: Conduit Manager socket timeout level {*configured* | *defaults*} to *s*.****Explanation**

This message documents the time-out seconds in use by the conduit manager for socket operation connect, send, and receive. If the message says "configured", then the value was supplied as the configuration parameter SO\_TIMEOUT. Otherwise, the message says "defaults".

**System action**

Conduit manager socket operations with data retrieval agents (DRAs) will time out if they have not started within the specified number of seconds.

**User response**

If communication is slow or error prone and causes many query failures, increase the time-out value.

**KOBCM0067I: THRESHOLDS\_SOURCE environment variable not FOUND.****Explanation**

THRESHOLDS\_SOURCE environment variable was not found. Default value of DD:RKANPAR will be used.

**System action**

THRESHOLDS\_SOURCE set to DD:RKANPAR.

**User response**

If a new source value of THRESHOLDS is desired, specify that in THRESHOLDS\_SOURCE environment variable.

**KOBCM0067W: SO\_TIMEOUT configuration variable is *value*. + Allowed values are integers from 0 and up. + Default of *x* seconds will be used.**

**Explanation**

The configuration variable SO\_TIMEOUT was imported but was not used. *value* documents the value read. Allowed values are 0 and up.

**System action**

The default of *x* is used.

**User response**

Correct the SO\_TIMEOUT configuration variable to specify a value within the allowed range or accept the default.

**KOBCM0070W: Get\_Column\_Affinities failed. rc = *return\_code*, appl = *appl*, table = *table* + *extended diagnostics context***

**Explanation**

Object Definition Interchange (ODI) file information for the named application, *appl* and table, *table*, was not found. The return code was *return\_code*. Extended diagnostics will provide the error code and error reason values as well.

**System action**

No attempt is made to further adjust the query for agent version level. The query will be attempted as-is and may fail.

**User response**

Ensure that the current product ODI table is loaded for the application named in the message.

**KOBCM0081I: Conduit Manager discovery socket timeout {configured | defaults} to *x*.**

**Explanation**

This message documents the time-out seconds in use by the conduit manager for discovery socket operation connect, send, and receive. If the message says "configured", then the value was supplied as a configuration parameter DIS\_TIMEOUT. Otherwise, the message say "defaults".

**System action**

Conduit manager discovery socket operations with data retrieval agents (DRAs) will time out if they have not started within the specified number of seconds.

**User response**

Consult with IBM Software Support before adjusting this value.

**KOBCM0082W: DIS\_TIMEOUT configuration variable is *value*. + Allowed values are integers from 0 and up. + Default of *x* seconds will be used.**

**Explanation**

Configuration variable DIS\_TIMEOUT was imported but was not used. *value* documents the value read. Allowed values are 0 and up.

**System action**

The default of *x* is used.

**User response**

Correct the DIS\_TIMEOUT configuration variable to specify a value within the allowed range or accept the default.

**KOBCM0083I: Discovery socket timeout seconds for KOBGWCND is *n*.**

**Explanation**

Conduit manager is setting discovery socket operations time limit to *n* seconds.

**System action**

Conduit manager will wait up to specified seconds for each discovery socket communication with data retrieval agents (DRAs) to start.

**User response**

Consult with IBM Software Support before adjusting this value.

**KOBCM0084I: Conduit Manager ping socket timeout {configured | defaults} to *x*.**

**Explanation**

This message documents the time-out seconds that is in use by Conduit Manager for ping socket operation receive. If the message says “configured”, the value was supplied as the configuration parameter PNG\_TIMEOUT. Otherwise the message says “defaults”.

**KOBCM0085W: PNG\_TIMEOUT configuration variable is *value*. + Allowed values are integers from 0 and higher. + Default of *x* seconds will be used.**

**Explanation**

Configuration variable PNG\_TIMEOUT was imported but was not used. *value* documents the value read. Allowed values are 0 and above.

**System action**

The default *x* will be used.

**User response**

Correct the PNG\_TIMEOUT configuration variable to specify a value within the allowed range or accept the default.

**KOBCM0086I: Ping socket timeout seconds for KOBGWCND is *n*.**

**Explanation**

The conduit manager is setting the time limit for ping-socket operations to *n* seconds.

**KOBCM0087I: Conduit Manager connect socket timeout {configured | defaults} to *x*.**

**Explanation**

This message displays the number of seconds before timeout that the conduit manager uses when connecting to a data retrieval agent (DRA) socket. If the message says *configured*, the value was supplied in the configuration parameter CON\_TIMEOUT. Otherwise, the message says *defaults*.

**KOBCM0088W: CON\_TIMEOUT configuration variable is *value*. + Allowed values are integers from 0 and higher. + Default of *x* seconds will be used.**

**Explanation**

The configuration parameter CON\_TIMEOUT was specified, but the value is not allowed. Allowed values are integers from 0 and above.

**System action**

The default value of *x* will be used.

### User response

Correct the **CON\_TIMEOUT** parameter value to be within the allowed range, or accept the default.

**KOBCM0089I: Connect socket timeout seconds for KOBGWCND is *n*.**

### Explanation

The conduit manager is setting the time limit for connect-socket operations to *n* seconds.

**KOBCM0090W: Conduit Manager retried the receive *n* operation *x* times before succeeding. + Elapsed time before success is *y* microseconds + extended diagnostics context**

### Explanation

Conduit manager receives data from its partner KOBAGENT in two steps. The first step learns how large the data block will be and the second step receives the actual data. If *n* is 1, the conduit manager is receiving the data block size. If *n* is 2, the conduit manager is receiving the actual data block. *x* is the number of retries before succeeding. *y* is the number of microseconds elapsed trying to receive this data.

**KOBCM0091I: Jobname: *nnnnnnnn* SYSID: *nnnnnnnn* SMFID: *ssss*.**

### Explanation

Conduit Manager documents the address space name, System ID, and SMF ID from which this log is being collected.

**KOBCM0100W: ODIREFRESH command specified *s*. + Allowed values must begin with K and be followed by 2 character product code.**

### Explanation

The ODIREFRESH command entered was not processed. The product code *s* is not valid. The command expects you to specify a single product code for the ODI to be refreshed. The product code must be 3 characters. The first character must be K, the next two characters must be a product code for a valid product, for example, M5 or CP.

### System action

None.

### User response

Retry the command using a valid product code. Look at the concatenated files in the RKANPAR DD statement for this OMEGAMON Enhanced 3270 user interface address space and find the first instance of the KOBFCGAP member. The first column contains the valid product codes for the ODI files that this address space might use.

**KOBCM0110I: Completed *Collection\_type* Situation Collection for *Hub\_Name* (*Total\_Sits*, +*Added\_Sits*, -*Deleted\_Sits*).**

### Explanation

A situation collection processes has completed for the indicated hub TEMS. Details on the collection type and the number of known situations for this hub TEMS is given, where:

- *Collection\_type* = Periodic | Realtime
- *Hub\_Name* = the origin node of the hub TEMS that was sampled
- *Total\_Sits* = number of situations within the Situation Database for this hub TEMS
- *Added\_Sits* = number of new situations added to the Situation Database on this sample
- *Deleted\_Sits* = number of situations deleted from the Situation Database on this sample

**System action**

None.

**System programmer response**

None.

**KOBCM0111W: Registry Refresh in progress. Periodic Situation Collection will not be performed this interval.****Explanation**

An attempt was made to make start collecting situation data. As the Tivoli® OMEGAMON® Manager's internal Registry Refresh processing was taking place a definitive list of hub TEMS was not available. Collection of situation data cannot take place and will wait 1 minute before attempting again.

**System action**

The periodic situation collection is skipped for the current collection interval.

**System programmer response**

Check the frequency of the Registry Refresh process (KOBCM0054I) and time taken to perform a Registry Refresh (KOBCM0046I). If this problem is a regular occurrence, consider changing the situation collection interval, the Registry Refresh process, or both to different intervals to reduce the chance of Registry Refresh and situation collection occurring at the same time.

**KOBCM0112I: Situation sampling interval *type* to *frequency* minutes.****Explanation**

Indicates how often a periodic situation collection against all know hub TEMS will take place, where:

- *type* = configured | defaults
- *frequency* = frequency, in minutes of the periodic situation collection process

The value is read from the Tivoli® OMEGAMON® Manager's environment settings at startup. The default value is 5 minutes.

**System action**

None.

**System programmer response**

None.

**KOBCM0113I: Number of cached recent situation samples *type* to *slot\_number* samples.****Explanation**

Indicates how many recent periodic samples, including status and snapshot data, are retained by the Tivoli® OMEGAMON® Manager for an open situation, where:

- *type* = configured | defaults
- *slot\_number* = number of slots defined.

The value is read from the Tivoli® OMEGAMON® Manager's environment settings at startup. The default value is 12 samples.

**System action**

None.

### System programmer response

None.

### **KOBCM0114I: Number of cached historical situation samples *type* to *slot\_number* samples.**

#### Explanation

Indicates how many historical periodic samples, including status and snapshot data, are retained by the Tivoli® OMEGAMON® Manager for an open situation, where:

- *type* = configured | defaults
- *slot\_number* = number of slots defined.

The value is read from the Tivoli® OMEGAMON® Manager's environment settings at startup. The default value is 16 samples.

#### System action

None.

### System programmer response

None.

### **KOBCM0115I: Historical situation collection range *type* to *time\_period units*.**

#### Explanation

Indicates the time period that historical situation collection will cover, where:

- *type* = configured | defaults
- *time\_period* = time period that historical samples will cover
- *units* = minutes | hours | days

The value is read from the Tivoli® OMEGAMON® Manager's environment settings at startup. The default value is 4 hours. Valid ranges is from 1 minute to 2\*\*32 days.

#### System action

None.

### System programmer response

None.

### **KOBCM0116I: Each historical sample will represent approximately *time\_period units*.**

#### Explanation

Indicates the time period that a single historical collection sample or slot will cover, where:

- *time\_period* = time period that an individual historical sample will cover
- *units* = minutes | hours | days

The value is calculated from overall time period historical situation collection is defined to cover (KOBCM0115I) divided by the number of periods or slots allocated (KOBCM0114I). If default values are used, this is 4 hours / 16 samples = 15 minutes.

#### System action

None.

### System programmer response

None.

**KOBCM0117W: Value of KOB\_SITST\_SAMPLE\_MINUTES configuration variable is *frequency*. Valid range is between 1 and 4294967295 minutes. Default of 5 minutes will be used.**

### Explanation

There was a problem reading the environment variable that defines the situation collection interval, where:

- *frequency* = the value for this environment variable as defined in the read configuration file

The default value of 5 minutes will be used.

### System action

Normal processing continues using the default value.

### System programmer response

Check the value that is set in the Tivoli® OMEGAMON® Manager environment variable files and make any corrections. The Tivoli® OMEGAMON® Manager will need to be recycled for any change to take effect.

**KOBCM0118W: Value of KOB\_SITST\_RECENT\_SLOTS configuration variable is *slot\_number*. Valid range is between 1 and 128 samples. Default of 12 samples will be used.**

### Explanation

There was a problem reading the environment variable that defines the number recent periodic samples to be retained by the Tivoli® OMEGAMON® Manager for an open situation, where:

- *slot\_number* = the value for this environment variable as defined in the read configuration file

The default value of 12 samples will be used.

### System action

Normal processing continues using the default value.

### System programmer response

Check the value that is set in the Tivoli® OMEGAMON® Manager environment variable files and make any corrections. The Tivoli® OMEGAMON® Manager will need to be recycled for any change to take effect.

**KOBCM0119W: Value of KOB\_SITST\_HISTORY\_SLOTS configuration variable is *slot\_number*. Valid range is between 1 and 128 samples. Default of 16 samples will be used.**

### Explanation

There was a problem reading the environment variable that defines the number historical periodic samples to be retained by the Tivoli® OMEGAMON® Manager for an open situation, where:

- *slot\_number* = the value for this environment variable as defined in the read configuration file

The default value of 16 samples will be used.

### System action

Normal processing continues using the default value.

### System programmer response

Check the value that is set in the Tivoli® OMEGAMON® Manager environment variable files and make any corrections. The Tivoli® OMEGAMON® Manager will need to be recycled for any change to take effect.

**KOBCM0120W: Value of KOB\_SITST\_HISTORY\_RANGE configuration variable is *time\_period*. Valid range is between 1 minute and 4294967295 days. Use suffix M (minutes), H (hours) or D (days) to indicate units. Default of 4 hours will be used.**

### Explanation

There was a problem reading the environment variable that defines the time period historical situation will cover, where:

- *time\_period* = the value for this environment variable as defined in the read configuration file

The default value of 4 hours will be used.

### System action

Normal processing continues using the default value.

### System programmer response

Check the value that is set in the Tivoli® OMEGAMON® Manager environment variable files and make any corrections. The Tivoli® OMEGAMON® Manager will need to be recycled for any change to take effect.

**KOBCM0121W: Historical sample slot interval cannot represent time period less than situation sample interval. Each historical sample will represent *time\_period* minutes.**

### Explanation

The calculated historical sample slot interval cannot be less than the defined situation sample interval (KOBCM0112I). The value is therefore reset to match this value meaning each sample interval also represents a single historical sample period, where:

- *time\_period* = time period that an individual historical sample will cover

### System action

None.

### System programmer response

None.

**KOBCM0125E: Unable to create Situation Database for hub *Hub\_Name*.**

### Explanation

There was a problem attempting to create a situation database entry for the given hub, where:

- *Hub\_Name* = the originnode of the hub TEMS that was sampled

### System action

Situation collection for the specified hub is stopped for the current interval. Data collected on this interval will not be retained.

### System programmer response

A likely cause for this issue would be a lack of available storage in the Tivoli® OMEGAMON® Manager address space. Check the amount of storage that has been made available and adjust as appropriate.

## **KOBCM0126E: Unable to create record for hub *Hub\_Name*.**

### **Explanation**

There was a problem attempting to create a single entry situation database entry for the given hub, where:

- *Hub\_Name* = the originnode of the hub TEMS that was sampled

### **System action**

Situation collection for the specified hub is stopped for the current interval. Data collected on this interval will not be retained.

### **System programmer response**

A likely cause for this issue would be a lack of available storage in the Tivoli® OMEGAMON® Manager address space. Check the amount of storage that has been made available and adjust as appropriate.

## **KOBCM0127E: Create thread for kobcmsit failed, pthreadstatusI = *pointer***

### **Explanation**

There was a problem attempting to create a thread for periodic situation collection, where:

- *pointer* = pointer location of the failed pthread status

### **System action**

The Tivoli® OMEGAMON® Manager will continue but periodic situation collection will not take place.

### **System programmer response**

Check the problem and make corrections. The Tivoli® OMEGAMON® Manager will need to be restarted to enable periodic situation collection.

## **KOBCM0128E: Create thread for kobcmrst failed, pthreadstatusI = *pointer***

### **Explanation**

There was a problem attempting to create a thread for realtime situation collection, where:

- *pointer* = pointer location of the failed pthread status

### **System action**

The Tivoli® OMEGAMON® Manager will continue but this instance of a realtime situation collection will not take place.

### **System programmer response**

Check the problem and make corrections. The Tivoli® OMEGAMON® Manager will need to be restarted to use changed settings.

## **KOBCM0129W: kobcmsit nap had a problem. RC: *return\_code***

### **Explanation**

There was a problem that occurred while the periodic situation collection process was sleeping, where:

- *return\_code* = return code

### **System action**

None.

### **System programmer response**

If problem is recurring check the problem and make corrections. The Tivoli® OMEGAMON® Manager may need to be restarted to use changed settings.

## **KOBCM0130E: Unable to perform real-time situation sample. Reason**

### **Explanation**

There was an error when attempting to make a real-time situation collection. The following line in the log will give a reason for the error, where:

- *Reason* = Unable to allocate storage for hub data. | No hub TEMS details supplied.

### **System action**

The real-time situation data collection is not completed.

### **System programmer response**

If problem is recurring check the problem and make corrections. The Tivoli® OMEGAMON® Manager may need to be restarted to use changed settings.

## **KOBCM0131I: Situation Database statistics:**

### **Explanation**

This internal trace message gives a full description as to the current state of the situation database stored at the Tivoli® OMEGAMON® Manager for the specified hub TEMS.

### **System action**

None.

### **System programmer response**

None.

## **KOBCM0132W: There were *number\_situations* new situation records discarded for hub *Hub\_Name*.**

### **Explanation**

The Tivoli OMEGAMON Manager found there was new situations but was unable to collect all the required information to create a record in the situation database, where:

- *number\_situations* = number of discarded situations
- *Hub\_Name* = the hub TEMS this message applies to

The most likely cause of this would be a timeout in the query to get this information. As the required information was not collected, the situation record is discarded.

### **System action**

Processing continues. If the situation is still open on the next collection sample, another attempt to create the record will be made.

### **System programmer response**

Additional tracing (kobflg03 8) may be able to indicate where the problem is. If the issue is caused by a timeout, increase the value with the Tivoli® OMEGAMON® Manager to see if this corrects the issue.

## **KOBCM0133I: The following Hub TEMS are *message\_type* periodic situation sampling: *Hub\_Name***

### **Explanation**

The KOBENV environment file has a variable that provided a comma-separated case-sensitive list of hub TEMS names that will be either included or excluded from periodic situation data collection depending on the variable used. The list of these hub TEMS will be logged on subsequent lines, where:

- *message\_type* = INCLUDED in | EXCLUDED from
- *Hub\_Name* = the hub TEMS this message applies to.

### **System action**

When periodic situation sampling occurs, the name of each known hub TEMS is checked against the list and will be skipped if it matches with a name on an exclude list, or it does not match with a name on an include list.

### **System programmer response**

None.

## **KOBCM0134W: Excluded hub name must be 32 characters or less: *Hub\_Name*.**

### **Explanation**

A name on the *KOB\_SITST\_INCLUDE\_HUBS* or *KOB\_SITST\_EXCLUDE\_HUBS* environment variable exceeded the maximum length permitted for a hub TEMS name, where:

- *Hub\_Name* = the hub TEMS this message applies to.

It will be ignored by the Tivoli® OMEGAMON® Manager when checking hub TEMS names to either include or exclude from sampling.

### **System action**

Processing continues. If the situation is still open on the next collection sample, another attempt to create the record will be made.

### **System programmer response**

Correct the variable value. The Tivoli® OMEGAMON® Manager will need to be restarted to use changed settings.

## **KOBCM0135I: All hubs to be included in periodic situation sampling.**

### **Explanation**

The Tivoli® OMEGAMON® Manager will periodically sample all hub TEMS discovered and recorded in the registry for situation data.

### **System action**

None.

### **System programmer response**

None.

## **KOBCM0136W: Both *KOB\_SITST\_INCLUDE\_HUBS* and *KOB\_SITST\_EXCLUDE\_HUBS* are specified. Values for *KOB\_SITST\_INCLUDE\_HUBS* will be ignored.**

### **Explanation**

When processing the environment variables at Tivoli® OMEGAMON® Manager startup, entries were found for both the *KOB\_SITST\_INCLUDE\_HUBS* and *KOB\_SITST\_EXCLUDE\_HUBS*. As these environment variables conflict with each other, the value for *KOB\_SITST\_INCLUDE\_HUBS* is ignored while the value for *KOB\_SITST\_EXCLUDE\_HUBS* will be processed and applied.

### **System action**

Processing continues.

### **System programmer response**

Check the environment variable settings and make corrections. The Tivoli® OMEGAMON® Manager will need to be restarted to use changed settings.

## **KOBCM0137I: Situation Data Collection disabled.**

### **Explanation**

No periodic situation data collection will take place against any hub TEMS. Real-time situation data collection will take place if a user navigates to the Enterprise Status Tree workspace or refreshes that workspace.

### **System action**

None.

### **System programmer response**

None.

## **KOBCM0157I: Hub *hubname* has been {enabled | disabled} for SSDC**

### **Explanation**

The request in the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) to enable or disable the hub monitoring server (*hubname*) for the Situation Status Data Collector (SSDC) has been successfully completed.

### **System action**

For an enablement request, the enhanced 3270UI resumes collecting SSDC data for the hub monitoring server. For a disablement request, the enhanced 3270UI suspends collecting SSDC data for the hub monitoring server.

### **User response**

None.

## **KOBCM0158W: Hub *hubname* has been already {enabled | disabled} for SSDC. {Enablement | Disablement} request ignored**

### **Explanation**

The request in the OMEGAMON enhanced 3270 user interface (enhanced 3270UI) to enable or disable the hub monitoring server (*hubname*) for the Situation Status Data Collector (SSDC) was rejected because the hub monitoring server has already been enabled or disabled for SSDC.

### **System action**

The request is ignored.

### **User response**

Check that the specified name of the hub monitoring server (*hubname*) is correct. If you intended to enable or disable this hub monitoring server, then no action is needed. If the specified name of the hub monitoring server is not as intended, correct the name and reissue the request.

## **KOBCM0159W: Hub *hubname* not found, command {ENABLE | DISABLE } HUB=*hubname* ignored**

### **Explanation**

A Situation Status Data Collector (SSDC) command was issued to enable or disable the specified hub monitoring server (*hubname*) for SSDC, but no hub monitoring server with the specified name was found.

### **System action**

The request is ignored.

### **User response**

Reissue the command with the correct hub monitoring server name.

**KOBCM0160W: Unexpected Sysplex Name found, name length is zero, Single Sysplex Registry is not possible.**

**Explanation**

The OMEGAMON enhanced 3270UI was started in single-sysplex mode; however, processing failed when attempting to obtain a valid sysplex name.

**System action**

The OMEGAMON enhanced 3270UI continues processing with single-sysplex mode disabled.

**User response**

Collect any related dump, trace, and system log data along with the OMEGAMON enhanced 3270UI job logs. Report the problem to IBM Software Support.

**KOBCM0161W: Failure getting Sysplex Info, rc = *return\_code***

**Explanation**

The OMEGAMON enhanced 3270UI was started in single-sysplex mode; however, processing failed when attempting to obtain sysplex configuration information (for example, sysplex LPAR members using WLM system services).

**System action**

The OMEGAMON enhanced 3270UI continues processing with single-sysplex mode disabled.

**User response**

Collect any related dump, trace, and system log data along with the OMEGAMON enhanced 3270UI job logs. Report the problem to IBM Software Support.

**KOBCM0162W: Failure getting Sysplex Info, ENOMEM, RC=*return\_code*.**

**Explanation**

The OMEGAMON enhanced 3270UI was started in single-sysplex mode; however, processing failed when attempting to obtain memory to store sysplex configuration information.

**System action**

The OMEGAMON enhanced 3270UI continues processing with single-sysplex mode disabled. Other related errors may occur in the case where the address space encounters errors when attempting to obtain memory.

**User response**

Review started task and site definitions associated with address space region size. The OMEGAMON enhanced 3270UI address space is normally started with region size 0M. Adjust the address space region size as required. If this does not address the issue, collect any related dump, trace, and system log data along with the OMEGAMON enhanced 3270UI job logs. Report the problem to IBM Software Support.

**KOBDR001W: server pthread\_attr\_init failed. rc=*return\_code***

**Explanation**

The attempt to set thread attributes needed to continue initializing the KOBAGENT Data Retrieval Agent has failed.

**System action**

Initialization continues.

**User response**

It is likely this KOBAGENT instance is unusable. Try restarting the address space. If the problem persists, contact IBM Software Support.

## **KOBDR002W: server pthread\_create failed. rc=*return\_code***

### **Explanation**

The attempt to start the main TCP/IP server thread within the KOBAGENT data retrieval agent has failed.

### **System action**

The data retrieval agent is unable to process client requests.

### **User response**

It is likely this KOBAGENT instance is unusable. Try restarting the address space if problem persists contact IBM Support. If the problem persists, contact IBM Software Support.

## **KOBDR003W: Data Retrieval Agent is not registered. Registration stage *stage* failed with Return Code = *return\_code***

### **Explanation**

*stage* can assume the follow values:

#### **Discover Host IP Data**

The TCP/IP host name of the LPAR where this address space is located could not be determined. Additional information for this failure can be:

- + *gethost\_rc* = *return\_code*, *gethost\_errno* = *error\_code*
- + *hostname* = *host\_name*
- + *getaddr\_rc* = *return\_code*, *getaddr\_errno* = *error\_code*
- + *freeaddr\_rc* = *return\_code*, *freeaddr\_errno* = *error\_code*

#### **Resolve IP Address**

The IP address associated with the host name could not be determined

#### **Discover HUB Data**

The hub name and IP information for this agent could not be determined

#### **Register DRA**

The attempt to register the information for this data retrieval agent with the IWMSRSRG service failed

### **System action**

The data retrieval agent is unable to process client requests.

### **User response**

It is likely this KOBAGENT instance is unusable. Try restarting the address space if problem persists contact IBM Support. If the problem persists, contact IBM Software Support.

## **KOBDR004W: client pthread\_attr\_init failed. rc=*return\_code***

### **Explanation**

The attempt to set thread attributes needed to initialize the query processing thread in the KOBAGENT data retrieval agent has failed.

### **System action**

The query is abandoned.

### **User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

## **KOBDR005W: client pthread\_create failed. rc=*return\_code***

### **Explanation**

The attempt to initialize the query processing thread in the KOBAGENT data retrieval agent has failed.

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR006E: ERROR: *storage\_type* storage unavailable****Explanation**

The attempt to acquire storage within the address space failed. The storage types involved are:

**Send block**

1 megabyte is requested

**Send buffer**

64K bytes is requested

**Row buffer**

4K bytes is requested

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR007E: ERROR: input buffer storage unavailable****Explanation**

The attempt to acquire storage to receive query from the enhanced 3270 user interface address space has failed.

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR008E: *stage* failure (*return\_code*)****Explanation**

The attempt to start the SQL request in the data retrieval agent failed at stage *stage* with code *return\_code*, where *stage* is one of:

**SQL1\_CreateAccessPlan**

specifies the query to submit

**SQL1\_CreateRequest**

establishes connection with agent

**SQL1\_GetInputSQLDA**

allows for variable input values

**SQL1\_OpenRequest**

collects a table sample

**SQL1\_GetOutputSQLDA**

provides structure for return row

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR009E: error for SQL, sqlStatus(%d)****Explanation**

Fetching row data failed.

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR010E: ERROR: Row buffer storage too small****Explanation**

Fetching row data failed.

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR011E: SQL processing error in call *stage*. Return code is *return\_code*. clsocket is *socket*****Explanation**

Documents failure of an SQL request. This message is usually preceded or followed by KOBDR006E, KOBDR0007E, KOBDR008E, KOBDR009E, or KOBDR010E.

**System action**

The query is abandoned.

**User response**

Retry the workspace associated with this failure. If the problem persists, contact IBM Software Support.

**KOBDR012E: function *function* failed with error code *code* (*code\_name*) at line *line\_number*. Reason *Action*****Explanation**

This message documents many of the possible TCP/IP error codes. The *Action* text may suggest a corrective step.

**System action**

The query is abandoned.

**User response**

if there is an action mentioned that can be implemented try taking that action. Otherwise, contact IBM Software Support.

**KOBDR013I: sent *nnn* bytes to *address space name and SMFID* + for sequence # = *xxxxxxxx\_xxxxxxx*,table = *appl.table***

**Explanation**

This message documents the number of bytes returned for this query, where:

- *nnn* is the count of bytes sent
- *address space name and SMFID* is the name and SMFID of the job
- *xxxxxxxx\_xxxxxxx* is the sequence number tied to the request
- *appl.table* is the name of the application and the table submitting the query

**System action**

None

**User response**

None

**KOBDR020W: CreateRequest failed, possibly due to missing TEMS Catalog entries. Resolve this by adding application support files (seeding) for '*appl.table* in the target {TEMS | Remote TEMS}: *monitoring\_server\_name***

**Explanation**

Message KOBDR020W indicates that a query was relayed by this KOBAGENT (Data Retrieval Agent) to a remote or hub monitoring server that does not contain the necessary monitoring server catalog entries (application support files).

**System action**

The query fails and any enhanced 3270 user interface workspace that needs the results might be missing data.

**System programmer response**

Apply application support (also known as seeding) to the necessary remote and hub monitoring server.

**KOBDR023I: Host address discovery**

**Explanation**

Message KOBDR023I is an internal trace message that is displayed during KOBAGENT (Data Retrieval Agent) Host IP address discovery.

**System action**

None.

**System programmer response**

None.

**KOBDR024I: gethostname() rc(*return\_code*), name(*hostname*)**

**Explanation**

Message KOBDR024I is an internal trace message that is displayed during KOBAGENT (Data Retrieval Agent) Host IP address discovery, which shows the result of the gethostname service.

**System action**

None.

**System programmer response**

None.

**KOBDR025I: IRA\_GetHostname() name(*hostname*)****Explanation**

Message KOBDR025I is an internal trace message that is displayed during KOBAGENT (Data Retrieval Agent) Host IP address discovery, which shows the result of the IRA\_GetHostname service.

**System action**

None.

**System programmer response**

None.

**KOBDR026I: Host name priority: #1 IRA\_GetHostname(*hostname*) #2  
gethostname(*hostname*) or Host name priority: #1 gethostname(*hostname*) #2  
IRA\_GetHostname(*hostname*)****Explanation**

This message displays the host name or names on which the Data Retrieval Agent is running. The gethostname() value can be given priority over the IRA\_GetHostname value (not the default behavior) by supplying the user configuration value KOB\_USE\_IRA\_HOSTNAME=N in the KxxENV file.

**System action**

None.

**System programmer response**

None.

**KOBDR027I: hostname(*hostname*) details:****Explanation**

Message KOBDR027I is an internal trace message that is displayed during KOBAGENT (Data Retrieval Agent) Host IP address discovery.

**System action**

None.

**System programmer response**

None.

**KOBDR030I: getaddrinfo().2 flags *nnn* family *nnn* type *nnn* proto *nnn* addrlen *nnn*****Explanation**

Message KOBDR030I is an internal trace message that is displayed during KOBAGENT (Data Retrieval Agent) Host IP address discovery, which shows the result of the getaddrinfo service.

**System action**

None.

**System programmer response**

None.

### **KOBDR031I: getaddrinfo().3 address: *getaddrinfo\_returned\_answer***

#### **Explanation**

Message KOBDR031I is an internal trace message that is displayed during KOBAGENT (Data Retrieval Agent) Host IP address discovery, which shows the result of the getaddrinfo service.

#### **System action**

None.

#### **System programmer response**

None.

### **KOBDR032E: Unable to obtain DRA Host Address, cannot run DRA**

#### **Explanation**

The Data Retrieval Agent (DRA), a component of the OMEGAMON® enhanced 3270 user interface (enhanced 3270UI), was not able to initialize due to a failure in an attempt to use z/OS® UNIX® System Services TCP/IP services (for example, to obtain the Host system TCP/IP address).

#### **System action**

The DRA will terminate initialization as it cannot function without TCP/IP. TCP/IP is required for communication between the DRA and the enhanced 3270UI (TOM) address space.

#### **System programmer response**

Perform the following actions:

- Verify that TCP/IP has been started and is running in the Host system where the DRA is running.
- Verify that TCP/IP has been started before starting the address space where the DRA will be running.
- Verify that a Security System OMVS Segment has been defined for the address space where the DRA is running.

### **KOBDR033I: Forcing use of a single TCP IPv4 interface(*IPv4\_address\_text*) (*IPv4\_address\_text*) or Forcing use of a single TCP IPv6 interface(*IPv6\_address\_text*)(*IPv6\_address\_text*)**

#### **Explanation**

The user configuration value KOB\_USE\_ONE\_INTERFACE=Y was set in the KxxENV file, so the TCP "listen" for the Data Retrieval Agent component is done on just a single network interface, rather than on all network interfaces on this host.

#### **System action**

None.

#### **System programmer response**

None.

### **KOBDR037I: {host | hub} property = *property\_value***

#### **Explanation**

A Hub Tivoli® Enterprise Monitoring Server and local Host address were successfully discovered and the listed values are the related network addresses, port numbers, and names. The Host Port value is the TCP port number on which this address space "listens" for inbound requests from Tivoli® OMEGAMON® Manager address spaces. The possible properties are shown in the following list:

- Host Name

- Host Address IPv4
- Host Address IPv6
- Host Port
- Host Family
- Hub Name
- Hub Address
- Hub Port

**System action**

None.

**System programmer response**

None.

**KOBDR043I: Hub IP addr = *IP\_address*, port = *port\_number*, orig = *monitoring\_server\_name***

**Explanation**

A Hub Tivoli® Enterprise Monitoring Server was successfully discovered and the listed values are its network address, port number, and monitoring server name.

**System action**

None.

**System programmer response**

None.

**KOBDR044I: Hub Name = *hub\_monitoring\_server\_name* Hub Address = *hub\_monitoring\_server\_address* Hub Port = *hub\_monitoring\_server\_port\_number***

**Explanation**

A Hub Tivoli® Enterprise Monitoring Server was successfully rediscovered and the listed values are the related network addresses, port numbers, and names.

**System action**

None.

**System programmer response**

None.

**KOBDR045I: {Call to | Back from} {Init\_HUB | Drop\_HUB}()**

**Explanation**

These messages indicate the processing flow of Hub Tivoli® Enterprise Monitoring Server discovery within the KOBAGENT (Data Retrieval Agent).

**System action**

None.

**System programmer response**

None.

**KOBDR046I: *programFlowDetails\_controlBlockInformation*****Explanation**

This internal trace message is displayed during data retrieval agent (DRA) processing, showing program flow details and internal control block information.

**System action**

None.

**System programmer response**

None.

**KOBDR047I: KOB\_DRA\_BACKLOG value=*x* is specified****Explanation**

The configuration parameter **KOB\_DRA\_BACKLOG** with the value of *x* has been found in the *KppENV* member of the *RKANPAR* DD concatenation, where *pp* is the two-character product code.

**System action**

The data retrieval agent (DRA) will process the parameter.

**User response**

No action is required.

**KOBDR048W: Incorrect KOB\_DRA\_BACKLOG value=*x* is specified. + Allowed values are integers from *min* to *max*. + Default value of *y* is assigned****Explanation**

The configuration parameter **KOB\_DRA\_BACKLOG** has the value of *x*, which is incorrect. A correct value should be an integer within the limits displayed in the message.

**System action**

The data retrieval agent (DRA) will process the **KOB\_DRA\_BACKLOG** parameter using the default value of *y*.

**User response**

Correct the **KOB\_DRA\_BACKLOG** parameter value to be within the allowed range, or accept the default. The updated value will be picked up when the DRA is restarted.

**KOBDR049I: Default DRA backlog value=*x* will be used****Explanation**

The configuration parameter **KOB\_DRA\_BACKLOG** was not specified.

**System action**

The data retrieval agent (DRA) will continue initialization using the default value of *x*.

**User response**

No action is required.

**KOBGW0091W: Threshold parsing completed with errors.**

**Explanation**

The parsing of a thresholds input file found one or more errors in the threshold specifications. These errors are reported in the preceding KOBGW0090W messages.

**System action**

The enhanced 3270 user interface continues to run.

**User response**

Correct the syntax errors in the threshold specification statements.

**KOBGW0000I: enhanced 3270 user interface address space initialized successfully.**

**Explanation**

The address space has started.

**System action**

None

**User response**

None

**KOBGW0001I: enhanced 3270 user interface address space terminated successfully.**

**Explanation**

The address space has terminated without error.

**System action**

None

**User response**

None

**KOBGW0002E: The enhanced 3270 user interface address space terminated with errors.**

**Explanation**

The address space terminated, but errors were detected in one or more phases of the shutdown.

**System action**

The address space terminates.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0003E: The enhanced 3270 user interface address space is not APF-authorized.**

**System action**

The address space terminates.

**User response**

Make sure that the enhanced 3270 user interface address space started task STEPLIB load libraries are APF-authorized and restart the task.

**KOBGW0004E: enhanced 3270 user interface CVT eyecatcher invalid at storage free.**

**Explanation**

The enhanced 3270 user interface CVT control block storage has been corrupted.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0005E: Name/Token IEANTCR failed rc=*return\_code*.**

**Explanation**

The z/OS Name/Token services call used to create an anchor for the enhanced 3270 user interface address space CVT failed with the return code given.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0006E: EXTRACT parameter list allocation failed.**

**Explanation**

Storage could not be acquired for a z/OS service to establish a communication area for operator console communications.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0007E: Name/Token IEANTDL failed rc=*return\_code*.**

**Explanation**

The z/OS Name/Token services call used to delete an anchor for the enhanced 3270 user interface address space CVT failed with the return code given.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0008E: Attempt to free enhanced 3270 user interface CVT failed.**

**Explanation**

Freeing of the enhanced 3270 user interface address space anchor control block failed. The CVT control block storage has been corrupted.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0009E: SYSEVENT parameter list allocation failed.****Explanation**

Storage could not be acquired for a z/OS service to make the enhanced 3270 user interface address space nonswappable.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0010E: ATTACHX parameter list allocation failed.****Explanation**

Storage could not be acquired for a z/OS service to start a enhanced 3270 user interface address space subcomponent.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0011I: User interface subcomponent *subcomponent* started successfully.****Explanation**

Subcomponent *subcomponent* of the enhanced 3270 user interface address space user interface started successfully.

**KOBGW0012E: LOAD parameter list allocation failed.****Explanation**

Storage could not be acquired for a z/OS service to start an enhanced 3270 user interface address space subcomponent.

**System action**

The address space terminates.

**User response**

Call IBM Software Support.

**KOBGW0013E: Load of subcomponent module *module* failed. rc=*return\_code*,  
rsn=*reason\_number*****Explanation**

The z/OS service used to load the program required to start the Enhanced 3270 User Interface address space subcomponent *module* failed with return code *return\_code* and reason code *reason\_number*.

**System action**

The address space terminates.

**User response**

Call IBM Software Support.

**KOBGW0014E: pthread\_attr\_init() for subcomponent *subcomponent* failed.  
rc=return\_code, rsn=reason\_number**

**Explanation**

A service to initialize attributes for starting an enhanced 3270 user interface address space subcomponent *subcomponent* failed with return code *return\_code* and reason code *reason\_number*.

**System action**

The address space terminates.

**User response**

Call IBM Software Support.

**KOBGW0015E: pthread\_attr\_setJST\_np() for subcomponent *subcomponent* failed.  
rc=return\_code, rsn=reason\_number**

**Explanation**

A service to initialize the task ownership for starting an enhanced 3270 user interface address space subcomponent *subcomponent* failed with return code *return\_code* and reason code *reason\_number*.

**System action**

The address space terminates.

**User response**

Call IBM Software Support.

**KOBGW0016E: pthread\_create() for subcomponent *subcomponent* failed.  
rc=return\_code, rsn=reason\_number**

**Explanation**

A service to start a thread for an enhanced 3270 user interface address space subcomponent *subcomponent* failed with return code *return\_code* and reason code *reason\_number*.

**System action**

The address space terminates.

**User response**

Call IBM Software Support.

**KOBGW0017I: Subcomponent *subcomponent* started.**

**Explanation**

The enhanced 3270 user interface address space subcomponent *subcomponent* started successfully.

**KOBGW0018E: Request router queue initialization failed. rc=return\_code.**

**Explanation**

A problem occurred in the initialization of the communication queue between the user interface and the request router.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0019E: Request router queue destroy failed. rc=*return\_code*.****Explanation**

A problem occurred with the destruction of the communication queue between the user interface and the request router.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0020E: KOBBC\_IO\_Term() failed. rc=*return\_code*.****Explanation**

A problem occurred with the destruction of the file descriptor table.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0021E: Delete of LPA-based load modules failed.****Explanation**

A problem occurred during the deletion of load modules loaded dynamically into the Link Pack Area (LPA).

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0022E: Allocation of registry root area failed.****Explanation**

Allocation of storage for the enhanced 3270 user interface registry root area failed

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0023E: Allocation of request router base area failed.****Explanation**

Storage could not be acquired for a enhanced 3270 user interface request router storage area.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0024E: Allocation of trace base area failed.****Explanation**

Storage could not be acquired for an enhanced 3270 user interface trace storage area.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0025E: LPA-based function load/registration failed. rc=return\_code, rsn=error\_reason, rsn2=error\_reason2.****Explanation**

enhanced 3270 user interface load modules could not be loaded into the Link Pack Area (LPA) or the registration of the modules' functions in the GWCVT anchored function table was unsuccessful. Further information related to the reason codes may be found in the "CSVDYLPA -- Provide Dynamic LPA Services" section of the *MVS Programming: Authorized Assembler Services Reference, Volume 1 (ALE-DYN)*.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0026E: KOBC\_IO\_Init() failed. rc=return\_code, rsn=error\_reason, rsn2=error\_reason2.****Explanation**

The allocation and initialization of the enhanced 3270 user interface file descriptor table failed

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0027E: User interface subcomponent *subcomponent* start up failed. rc=return\_code****Explanation**

The enhanced 3270 user interface address space subcomponent *subcomponent* could not be started due to error *return\_code*.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0028E: The enhanced 3270 user interface address space initialized with errors.**

**Explanation**

The enhanced 3270 user interface address space initialized, but errors were detected in one or more phases of the start up.

**System action**

The address space terminates.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0029E: CSVDYLP A REQUEST=ADD failure rc = *return\_code*, rsn = *error\_reason*.**

**Explanation**

Loading of Link Pack Area (LPA) modules at initialization of the enhanced 3270 user interface failed, with the return and reason codes displayed in message.

**System action**

The address space terminates.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0030E: One or more modules could not be loaded into LPA.**

**Explanation**

Loading of Link Pack Area (LPA) modules at enhanced 3270 user interface initialization failed with return code 4.

**System action**

The address space terminates.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0031I: Module *module* loaded into LPA successfully at *loadpoint*, entry point *entrypoint*.**

**Explanation**

Module *module* was dynamically loaded into LPA at load point *loadpoint*. Its entry point is at location *entrypoint*

**System action**

Address space initialization continues.

**KOBGW0032E: Load of module *module* failed. pcode = *pppp*, rtncd/abndcd = *xxxx*, rsncd/abndrsn = *yyyy*.**

**Explanation**

Dynamic load of load module *module* failed with the return, abend reason, and abend reason codes displayed in the second line of the message. Further information related to the reason codes may be found in the "CSVDYLP A -- Provide Dynamic LPA Services" section of the *MVS Programming: Authorized Assembler Services Reference, Volume 1 (ALE-DYN)*.

**System action**

The address space terminates.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0033E: CSVDYLPA DELETE failure. rc = *return\_code*, rsn =*error\_reason*.**

**Explanation**

Deletion of dynamically loaded Link Pack Area (LPA) modules failed with return code *return\_code* and reason code *error\_reason*.

**System action**

The address space termination continues.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0034E: One or more modules could not be deleted from LPA.**

**Explanation**

Deletion of Link Pack Area (LPA) modules at termination of the enhanced 3270 user interface failed with return code 4.

**System action**

The address space termination continues.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0035I: Module *module* deleted from LPA successfully.**

**Explanation**

Load module *module* was dynamically deleted from the Link Pack Area (LPA) successfully.

**System action**

Termination of the address space continues.

**KOBGW0036E: Delete of module *module* from LPA failed. pcode = *pppp*, rtncd/abndcd = *xxxx*, rsncd/abndrsn = *yyyy*.**

**Explanation**

Dynamic deletion of load module *module* failed with the return, abend reason, and abend reason codes displayed in the second line of the message. Further information related to the reason codes may be found in the "CSVDYLPA -- Provide Dynamic LPA Services" section of the *MVS Programming: Authorized Assembler Services Reference, Volume 1 (ALE-DYN)*.

**System action**

Termination of the address space continues.

**User response**

Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0037E: KOBGW\_LoadLPAFunction() registration failed. rc = *return\_code*, errno = *error\_number*, rsno = *reason\_number*.**

**Explanation**

Registration of an Link Pack Area (LPA) based enhanced 3270 user interface address space function failed with return code *return\_code*, errno *error\_number* and rsno *reason\_number*.

**System action**

The address space terminates.

**User response**

Recreate the error with debugging mode switched on. Establish debugging mode by specifying the following in the RKANPARU(KOBENV) member before starting the enhanced 3270 user interface address space:  
TRACEV1=TRACE KOBGWLPA, 1. Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0038E: Module *module* function registration failed rc = *return\_code*, errno = *error\_number*, errno2 = *error\_number2*.**

**Explanation**

The entry point initialization routine for dynamically loaded Link Pack Area (LPA) module *module* failed with the return and reason codes displayed in the message.

**System action**

The address space terminates.

**User response**

Recreate the error with debugging mode switched on. Establish debugging mode by specifying the following in the RKANPARU(KOBENV) member before starting the enhanced 3270 user interface address space:  
TRACEV1=TRACE KOBGWLPA, 1. Check accompanying messages and forward the job message log to IBM Software Support.

**KOBGW0039E: RESMGR output token address parameter is zero.**

**Explanation**

A problem occurred with the start of a component enhanced 3270 user interface address space. The value of the RESMGR TOKEN= keyword parameter is zero.

**System action**

The address space terminates.

**User response**

This is a program error. Contact IBM Software Support.

**KOBGW0040E: Allocation of the resource manager LOAD parameter list failed.**

**Explanation**

Insufficient storage is available to allocate the parameter list for LOAD.

**System action**

The address space terminates.

**User response**

Determine whether there were storage shortage problems at the time of the error and contact IBM Software Support.

**KOBGW0041E: Load of resource manager KOBRSMGR failed. rc = *return\_code*, rsn = *error\_reason*.**

**Explanation**

The LOAD of the enhanced 3270 user interface address space resource manager routine failed with the return and reason codes displayed in the message.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0042E: Allocation of the parameter list for RESMGR ADD failed.**

**Explanation**

Insufficient storage is available to allocate the parameter list for RESMGR ADD.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0043E: Allocation of the parameter list for RESMGR DELETE failed.**

**Explanation**

Insufficient storage is available to allocate the parameter list for RESMGR DELETE, causing a problem with the start of the enhanced 3270 user interface address space.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0044E: Establishment of resource manager failed rc = *return\_code*.**

**Explanation**

Establishment of the enhanced 3270 user interface address space resource manager failed with the return code displayed in the message.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0045E: Attempt to free the resource manager LPA module table failed.**

**Explanation**

The enhanced 3270 user interface address space resource manager routine attempted to delete a dynamically loaded LPA module and failed.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0046E: Deletion of resource manager failed rc = *return\_code*****Explanation**

Deletion of enhanced 3270 user interface address space resource manager failed. Further information related to the reason codes may be found in the "RESMGR -- Add or Delete a Resource Manager" section of the *MVS Programming: Authorized Assembler Services Reference, Volume 3 (LLA-SDU)*.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0047I: enhanced 3270 user interface CVT freed by resource manager.****Explanation**

Anchor control block storage for the enhanced 3270 user interface address space was freed successfully during resource manager processing.

**System action**

Resource manager processing continues.

**User response**

None.

**KOBGW0048E: Resource Manager KOBGW\_DeleteLPAFunction() failed rc = *return\_code*****Explanation**

The deletion of dynamically-loaded LPA modules failed during resource manager processing with the return code displayed in the message.

**System action**

Resource manager processing continues.

**User response**

Contact IBM Software Support.

**KOBGW0049E: LPA\_Term() in resource clean up failed rc = *return\_code*.****Explanation**

During processing by the enhanced 3270 user interface address space resource manager, the routine handling the deletion of dynamically loaded LPA modules failed with the return code displayed in the message.

**System action**

Resource manager processing continues.

**User response**

Contact IBM Software Support.

**KOBGW0050E: deleteLPAModTabFromESQA() in resource clean up failed rc = *return\_code*.**

**Explanation**

During processing by the enhanced 3270 user interface address space resource manager, the routine handling the freeing of a common storage area used during deletion of dynamically loaded LPA modules failed with the return code displayed in the message.

**System action**

Resource manager processing continues.

**User response**

Contact IBM Software Support.

**KOBGW0051E: free\_GWCVT() in resource clean up failed rc = *return\_code*.**

**Explanation**

The anchor control block storage for the enhanced 3270 user interface address space could not be freed during resource manager processing for the reason in the return code displayed in the message.

**System action**

Resource manager processing continues.

**User response**

Contact IBM Software Support.

**KOBGW0052I: KOBRSMDR resource manager routine entered.**

**Explanation**

The enhanced 3270 user interface address space resource manager routine installed to clean up orphaned, critical resources was entered due to an operator CANCEL command.

**System action**

Resource manager processing continues.

**User response**

Investigate the reason for the operator CANCEL command being issued.

**KOBGW0053I: KOBRSMDR resource manager routine completed**

**Explanation**

The enhanced 3270 user interface address space resource manager routine installed to clean up orphaned, critical resources completed its processing.

**System action**

Resource manager processing continues.

**User response**

Investigate the reason for the operator CANCEL command being issued. Also check for any error messages issued during normal user interface address space processing and in the resource manager processing.

**KOBGW0054E: Command table entry for thread *thread* not found. rsn = *reason\_code*.**

**Explanation**

The subcomponent has not registered to receive commands. The failure to register was discovered in the subcomponent command processing routine. The reason code will help to determine the cause of the problem.

**System action**

The subcomponent command processing routine terminates.

**User response**

Contact IBM Software Support.

**KOBGW0055E: Attempt to get command from the subcomponent command queue failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason*.**

**Explanation**

The subcomponent command processing routine experienced a failure attempting to read a command from its command queue. The return and reason codes will help to determine the cause of the problem.

**System action**

The subcomponent command processing routine terminates.

**User response**

Contact IBM Software Support.

**KOBGW0056E: Subcomponent command processing routine failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

The subcomponent experienced a failure while processing a command. The return code and reason codes will help to determine the cause of the problem.

**System action**

The subcomponent command processing routine terminates.

**User response**

Contact IBM Software Support.

**KOBGW0057E: Command table entry for thread *thread\_name* not found. rsn = *error\_reason*.**

**Explanation**

During subcomponent command registration no thread table entry was found for subcomponent thread *thread\_name*. The reason code will help to determine the cause of the problem.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0058E: Command *command* is longer than 16 characters.**

**Explanation**

During subcomponent command registration, registration of a command name with a length greater than the maximum 16 characters allowed was specified.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0059E: Creation of subcomponent command queue failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

During subcomponent command registration, the creation of the subcomponent's command queue failed. The return code and reason codes will help to determine the cause of the problem.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0060E: pthread\_attr\_init() for subcomponent message thread failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

During the subcomponent launch of its command processing thread, the initialization of thread attributes failed. The return code and reason codes will help to determine the cause of the problem.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0061E: pthread\_create() for subcomponent message thread failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

During the subcomponent launch of its command processing thread, the creation of the thread failed. The return code and reason codes will help to determine the cause of the problem.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0062E: Command table entry for thread *thread* not found. rsn = *reason\_code*.**

**Explanation**

During subcomponent command deregistration, no thread table entry was found for subcomponent thread *thread*. The reason code will help to determine the cause of the problem.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0063E: Destruction of command table entry queue failed. rc = *return\_code*, rsn = *error\_reason*.**

**Explanation**

During subcomponent command deregistration, the destruction of the subcomponent command queue failed. The return code and reason code will help to determine the cause of the problem.

**System action**

The subcomponent thread terminates.

**User response**

Contact IBM Software Support.

**KOBGW0064E: No command text specified in the command buffer.**

**Explanation**

A command issued to the subcomponent did not contain any command text.

**System action**

Processing continues and the subcomponent waits for another command.

**User response**

Make sure that the command issued was specified correctly. If a command greater than 16 characters in length is documented, this is an error. Contact IBM Software Support.

**KOBGW0065E: Command table entry for thread *thread* not found. rsn = *reason\_code*.**

**Explanation**

While issuing a command for a subcomponent, no thread table entry was found for subcomponent thread *thread*. The reason code will help to determine the cause of the problem.

**System action**

Processing continues and the subcomponent waits for another command.

**User response**

Contact IBM Software Support.

**KOBGW0066E: Add of command to command queue failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

A command issued for the subcomponent could not be added to the subcomponent's command queue. The return code and reason codes will help to determine the cause of the problem.

**System action**

Processing continues and the subcomponent waits for another command.

**User response**

Contact IBM Software Support.

**KOBGW0067E: pthread\_join() failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

An attempt to synchronize subcomponent termination with the main task on issuance of a STOP command to the subcomponent failed. The return code and reason codes will help to determine the cause of the problem.

**System action**

The subcomponent processes the STOP command, but the subcomponent thread termination is not synchronized with the main thread, possibly forcibly terminating the subcomponent thread with an abnormal termination code.

**User response**

Contact IBM Software Support.

**KOBGW0068E: Command *command* not supported by any active subcomponents.**

**Explanation**

A console command was entered but no active enhanced 3270 user interface subcomponent was registered for the command.

**System action**

The interface continues to wait for the next console command.

**User response**

A console command may have been mistyped. Retry the command. If the command is documented and entered correctly, contact IBM Software Support.

**KOBGW0069E: GW\_Obtain\_GWCVT\_Address() returned NULL. rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

A console command to stop the KOBVTAM subcomponent failed to find a required anchor control block. The reason codes may help determine the cause of the problem.

**System action**

The KOBGWOBV subcomponent terminates without terminating the KOBVTAM subcomponent. The interface will continue to wait for console commands.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0070E: Session header block address is NULL.**

**Explanation**

A console command to STOP the KOBVTAM subcomponent failed to find the head of the session control block chain.

**System action**

The KOBGWOBV subcomponent terminates without terminating the KOBVTAM subcomponent. The interface will continue to wait for console commands.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0071W: nnnnn UI sessions still have requests in progress. Waiting nn more seconds to allow requests to complete.**

**Explanation**

A console command to STOP the KOBVTAM subcomponent has been issued but the user interface component has one or more sessions with active requests. The address space will wait for up to 60 seconds in 5 second increments or until no active user interface requests are detected. After 60 seconds a WTOR will be issued allowing the operator to extend the wait for active requests to complete.

**System action**

The subcomponent KOBGWOBV will issue KOBGW0071W messages every 5 seconds until it detects all active user interface requests have completed. KOBGW0085I will be issued as a WTOR after 60 seconds if active user interface requests persist.

**User response**

This message is most likely issued because at least one long-running request was still active when a console STOP command was issued against the address space. If, however, the duration of the request exceeds an expected amount of time, there may be a problem in the request path. If this is the case, contact IBM Software Support.

**KOBGW0072W: Maximum wait time for session requests to complete at termination exceeded**

**Explanation**

A console command to STOP the KOBVTAM subcomponent has been issued and the operator has responded to the KOBGW0085I WTOR to request that no further waiting for request completion be attempted.

**System action**

The address space will terminate the KOBVTAM subcomponent. Any user interface sessions with active requests will be forcibly terminated.

**User response**

The termination of the KOBVTAM subcomponent may be premature if a long-running request has not been given enough time to complete. If the request should have completed within the allowed interval, capture the logs for the address space and the hub Tivoli Enterprise Monitoring Server from which data was being requested and contact IBM Software support.

**KOBGW0073W: Sessions with active requests will be forcibly terminated.**

**Explanation**

A console command to STOP the KOBVTAM subcomponent has been issued and the operator has responded to the KOBGW0085I WTOR to request that no further waiting for request completion be attempted.

**System action**

The address space will terminate the KOBVTAM subcomponent. Any user interface sessions with active requests will be forcibly terminated.

**User response**

The termination of the KOBVTAM subcomponent may be premature if a long-running request has not been given enough time to complete. If the request should have completed within the allowed interval, capture the logs for the address space and the hub Tivoli Enterprise Monitoring Server from which data was being requested and contact IBM Software support.

**KOBGW0074E: OBVTAM STOP processing failed rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.**

**Explanation**

The STOP console command to terminate the KOBVTAM subcomponent failed with the return and reason codes provided.

**System action**

The KOBVTAM subcomponent will not be terminated by the current command. The address space will continue to wait for other console commands.

**User response**

Other messages preceding KOBGW0074E will help in determining the cause of the problem in addition to the return and reason codes displayed.

**KOBGW0075E: OBVTAM command *command* not supported by command handler.****Explanation**

The KOBGWOBV command handling process does not support the command *command*.

**System action**

The KOBGWOBV subcomponent returns and the address space continues to wait for other console commands.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0076E: Command registration in KOBGWOBV subcomponent failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.****Explanation**

KOBGWOBV failed to register for address space console commands.

**System action**

The KOBGWOBV subcomponent returns and the address space continues to wait for other console commands. The KOBVTAM subcomponent will not be able to respond to console commands.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0077E: Command wait in KOBGWOBV subcomponent failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.****Explanation**

KOBGWOBV failed to establish the routine that waits for its registered console commands.

**System action**

The KOBGWOBV subcomponent returns and the address space continues to wait for further console commands. The KOBVTAM subcomponent will not be able to respond to console commands.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0078E: Command deregistration in KOBGWOBV subcomponent failed. rc = *return\_code*, rsn = *error\_reason*, rsn2 = *error\_reason2*.****Explanation**

KOBGWOBV failed to establish the routine that deregisters its registered console commands.

**System action**

The KOBGWOBV subcomponent returns and the address space continues to wait for further console commands.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0079E: KOBBOBV\_Update\_Session\_Status() TCBAAddress is NULL.****Explanation**

A user interface session registration with the command handler supplied a NULL TCB address.

**System action**

The user interface will issue a popup error message explaining that the session initialization failed.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0080E: KOBBOBV\_Update\_Session\_Status() sessionStatus out of range (1 - 4).**

**Value passed = *nnnn***

**Explanation**

The status parameter values supplied by the internal routine were outside the acceptable range?

**System action**

The user interface will issue a popup error message explaining that the session request failed.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0081E: GW\_Obtain\_GWCVT\_Address() returned NULL. rsn = *error\_reason*, rsn2 = *error\_reason2*.****Explanation**

A user interface session request failed to find a required anchor control block. The reason codes may help determine the cause of the problem.

**System action**

The user interface will issue a popup error message explaining that the session request failed.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0083E: Current session status is *nnnn*, requested status is *nnnn* - invalid transition.****Explanation**

A user interface session request supplied a status value that is an invalid state to transition to from the current session status.

**System action**

The user interface will issue a popup error message explaining that the session request failed.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0084E: Current session status is *nnnn*, requested status is *nnnn* - invalid transition.****Explanation**

A user interface session request supplied a status value that is an invalid state to transition to from the current session status.

**System action**

The user interface will issue a popup error message explaining that the session request failed.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0085I: Enhanced 3270 user interface session requests still active. Reply (Y)es to continue waiting.****Explanation**

A console command to STOP the KOBVTAM subcomponent has been issued but the user interface component has one or more sessions with active requests. The address space has waited for 60 seconds in 5 second increments. After 60 seconds, this WTOR is issued allowing the operator to extend the wait for active requests to complete by replying to the console message number with a Y.

**System action**

If the response to the WTOR is Y, the address space will wait up to another 60 seconds before reissuing the WTOR. If all user interface requests complete in that period, termination of the KOBVTAM subcomponent will continue normally.

**User response**

This is an operator command WTOR. To continue waiting for active user interface requests to complete, respond Y or y to the console message. Any other response will result in sessions with active requests being forcibly terminated and possibly unpredictable results.

**KOBGW0086E: KOBVTAM session TCB address *address* not found on session chain.****Explanation**

A user interface session request supplied a TCB address representing the current session, but the session control block chain did not contain an entry containing the supplied address.

**System action**

The user interface will issue a popup error message explaining that the session request failed.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0087E: USS filepath: */tmp/zzz...* open failed, fd = *nn*, errno = *xxxx*, errno2= *xxxx*.****Explanation**

The enhanced 3270 user interface attempted to open a file in the z/OS® UNIX® System Services */tmp* path with file name based on job name and job ID (e.g., */tmp/jobname.jobid.log*).

**System action**

The enhanced 3270 user interface continues to run.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0088E: USS file close failed, fd = nn, errno = xxxx, errno2= xxxx.**

**Explanation**

The enhanced 3270 user interface attempted to close a file in the z/OS® UNIX® System Services /tmp path with the file name based on job name and job ID (/tmp/jobname.jobid.log).

**System action**

The enhanced 3270 user interface continues to run.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0089E: USS file path: /tmp/zzz... open failed, fd = nn, errno = xxxx, errno2= xxxx.**

**Explanation**

The enhanced 3270 user interface attempted to open or create a file in the z/OS® UNIX® System Services /tmp path with the file name based on job name and job ID (/tmp/jobname.jobid.log).

**System action**

The enhanced 3270 user interface continues to run.

**User response**

This is an internal error. Contact IBM Software Support and be prepared to supply the logs for the address space.

**KOBGW0090W: Threshold parsing encountered an error in the following statement:  
Threshold member: *threshold\_member\_name* Statement: *statement\_with\_error***

**Explanation**

The parsing of threshold input file *threshold\_member\_name* found an error in threshold specification statement *statement\_with\_error*.

**System action**

Threshold parsing continues.

**User response**

Correct the syntax error in the threshold specification statement.

**KOBGW0092E: Allocation of command table failed. rc=return\_code**

**Explanation**

Allocation of the internal table containing operator command processing information failed because sufficient storage is not available. storage

**System action**

The interface address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0093E: Initial setenv() failed rc = *return\_code*, errno = *error\_reason*, errno2 = *error\_reason2*.**

**Explanation**

An operation to initialize an environmental variable during initialization of the interface address space failed with the return and reason codes in the message.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0094E: Allocation of session block header failed.**

**Explanation**

Insufficient storage is available to allocate a control block required for user interface session operations.

**System action**

The address space terminates.

**User response**

Try increasing the size of the region using the MEMLIMIT JCL parameter. If this does not correct the problem, contact IBM Software Support.

**KOBGW0095E: Allocation of thresholding cache header failed.**

**Explanation**

Insufficient storage is available to allocate a control block required for thresholding operations.

**System action**

The address space terminates.

**User response**

Try increasing the size of the region using the MEMLIMIT JCL parameter. If this does not correct the problem, contact IBM Software Support.

**KOBGW0096E: Deallocation of the command table failed. rc=*return\_code*.**

**Explanation**

A problem occurred during an attempt to deallocate the internal table containing operator command processing information.

**System action**

The address space terminates.

**User response**

Contact IBM Software Support.

**KOBGW0097W: Dynamic load of modules into LPA requested but not supported.  
Modules loaded into private area.**

**Explanation**

Loading of function modules into the Link Pack Area was expected but was not allowed by the operating system. This might be due to the SAF-based security for the installation prohibiting the interface from performing dynamic LPA loading operations.

**System action**

Address space initialization continues by loading function modules into the interface private area.

**User response**

If loading of function modules into LPA is required, and supported by the level of operating system, check that the security controls established for loading and deleting modules dynamically into and from LPA allow the interface to perform these operations. If LPALOAD=Y is supplied as a parameter in the interface started task JCL, either eliminating the parameter or coding LPALOAD=N will prevent this message from being generated.

**KOBGW0098E: Allocate of function module LOAD parameter list failed.**

**Explanation**

Insufficient storage is available to allocate the z/OS LOAD parameter list required to load function modules into the enhanced 3270 user interface private area.

**System action**

The enhanced 3270 user interface address space terminates.

**User response**

Try increasing the size of the region using the REGION JCL parameter. If this does not correct the problem, contact IBM Software Support.

**KOBGW0099I: Status thresholds could not be established from *member\_name*. rc = *return\_code***

**Explanation**

The enhanced 3270 user interface initialization could not establish thresholding for member *member\_name* (CUASITE, IBMSITE, or KppTHRSH, where *pp* is the 2-character product code).

**System action**

Initialization of the address space continues.

**User response**

The THRESHOLDS\_SOURCE environmental variable or the libraries in the RKANPAR DD concatenation may specify the wrong DD name. Check to make sure the DD name is correct.

**KOBGW0100W: Open of threshold directory DD:*directory\_name* failed. errno = *error\_number*, rsnno = *error\_reason*.**

**Explanation**

Initialization of the enhanced 3270 user interface could not open the PDS directory allocation *directory\_name* containing the status threshold members.

**System action**

Address space initialization continues.

**User response**

Contact IBM Software Support.

**KOBGW0101W: Read of threshold directory *directory\_name* failed. errno = *error\_number*, rsno = *error\_reason*.**

**Explanation**

Initialization of the enhanced 3270 user interface could not read the next member of the PDS directory containing the status threshold members.

**System action**

Initialization of the address space continues.

**User response**

Contact IBM Software Support.

**KOBGW0102W: Close of threshold directory *directory\_name* failed. errno = *error\_number*, rsno = *error\_reason*.**

**Explanation**

Initialization of the enhanced 3270 user interface could not close the PDS directory containing the status threshold members.

**System action**

Initialization of the address space continues.

**User response**

Contact IBM Software Support.

**KOBGW0103I: Status thresholds successfully established from member *member\_name*.**

**Explanation**

Initialization of the enhanced 3270 user interface address space successfully established status thresholds from member *member\_name*.

**KOBGW0104W: Default thresholds refresh could not be completed - active UI evaluations.**

**Explanation**

The enhanced 3270 user interface address space tried to establish status thresholds but detected that one or more threshold evaluations are currently in progress. The program waited, but the wait interval expired and threshold evaluation did not finish.

**System action**

The enhanced 3270 user interface stops the attempt to refresh status thresholds.

**User response**

Try refreshing the status thresholds later. If the problem persists, check the enhanced 3270 user interface address space logs for related messages. If further assistance is needed, contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBLI0001E: Command registration in KOBLISTN subcomponent failed. rc = *return\_code***

**Explanation**

KOBLISTN failed to register for enhanced 3270 user interface console commands.

**System action**

The KOBLISTN subcomponent returns and the enhanced 3270 user interface continues to wait for further console commands.

**User response**

This is an internal error. Contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBLI0002E: Command wait in KOBLISTN subcomponent failed. rc = *return\_code*****Explanation**

KOBLISTN failed to establish the routine that waits for its registered enhanced 3270 user interface console commands.

**System action**

The KOBLISTN subcomponent returns and the enhanced 3270 user interface continues to wait for further console commands.

**User response**

This is an internal error. Contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBLI0003E: Command deregistration in KOBLISTN subcomponent failed. rc = *return\_code*****Explanation**

KOBLISTN failed to establish the routine that deregisters its registered enhanced 3270 user interface console commands.

**System action**

The KOBLISTN subcomponent returns and the enhanced 3270 user interface continues to wait for further console commands.

**User response**

This is an internal error. Contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBLI0004E: KOBLISTN STOP processing failed. rc = *return\_code*****Explanation**

The enhanced 3270 user interface STOP console command to terminate the KOBLISTN subcomponent failed with the return code *rc*.

**System action**

The KOBLISTN subcomponent will not be terminated by the current command. The enhanced 3270 user interface will continue to wait for other console commands.

**User response**

Use other messages preceding KOBLI0004E in addition to the return and reason codes displayed to determine the cause of the problem.

**KOBLI0005E: KOBLISTN TRACE command processing failed. rc = *return\_code*****Explanation**

The enhanced 3270 user interface TRACE console command to begin tracing for the KOBLISTN subcomponent failed with return code *return\_code*.

**System action**

The KOBLISTN subcomponent will not be able to process the TRACE command. The enhanced 3270 user interface will continue to wait for other console commands.

**User response**

Use other messages preceding KOBLI0004E in addition to the return code displayed to determine the cause of the problem.

**KOBLI0006E: KOBLISTN command *command* not supported by command handler.****Explanation**

The KOBLISTN command handling process does not support the command *command*.

**System action**

The KOBLISTN subcomponent returns and the enhanced 3270 user interface continues to wait for further console commands.

**User response**

This is an internal error. Contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBLI0007I: Processing command string =*command*****Explanation**

The KOBLISTN command handling routine is processing the *command* command.

**System action**

None

**User response**

None

**KOBLI0008I: The Trace Command supplied is *command*.****Explanation**

The KOBLISTN subroutine is echoing the command *command*.

**System action**

None

**User response**

None

**KOBOD0000I: ODI cache initialization has started.****Explanation**

The Object Definition Interchange (ODI) cache initialization (which may involve reading the DOC/ATR files for some applications) has started.

**System action**

None

**User response**

None

**KOBOD0001I: ODI cache initialization has completed.**

**Explanation**

The Object Definition Interchange cache initialization, which might involve reading the DOC/ATR files for some applications, has completed.

**System action**

None.

**User response**

None.

**KOBOD0002I: ODI cache termination has started.**

**Explanation**

The Object Definition Interchange (ODI) cache termination (which involves releasing all the storage for all applications in the cache) has started.

**System action**

None

**User response**

None

**KOBOD0003I: ODI cache termination has completed.**

**Explanation**

The Object Definition Interchange cache termination (which involves releasing all the storage for all applications in the cache) has completed.

**System action**

None

**User response**

None

**KOBOD0004E: Error opening file *filename*; rc=*return\_code*, errno=*error\_number*, rsno=*reason\_number*.**

**Explanation**

An error occurred trying to open the DOC or ATR file for an application.

**System action**

The Object Definition Interchange (ODI) loader subcomponent stops processing the DOC and ATR files for this application.

**User response**

Verify the file exists and that its file permissions allow the enhanced 3270 user interface address space to read it.

**KOBOD0005E: Error reading file *filename*; rc=*return\_code*, errno=*error\_number*, rsno=*reason\_number*.**

**Explanation**

An error occurred trying to read the DOC or ATR file for an application.

**System action**

The Object Definition Interchange (ODI) loader subcomponent stops processing the DOC and ATR files for this application.

**User response**

Verify the file exists in the files concatenated to the RKANDATV DD statement. If the file is not there, check for it in TKANDATV and try to replace the file. If the file is already in RKANDATV, try to access the file to verify its integrity. Also, check the log for security-related messages or some other type of I/O error. If the file is there, and you can access it, but the problem persists, or if the file is not present, call IBM Software Support.

**KOBOD0006E: Error closing file *filename*; rc=*return\_code*, errno=*error\_number*, rsno=*reason\_number*.**

**Explanation**

An error occurred trying to close the DOC or ATR file for an application.

**System action**

The Object Definition Interchange (ODI) loader subcomponent will try to use the DOC and ATR files for this application, if there were no errors reading or parsing the files.

**User response**

Verify the file exists and that its file permissions allow the enhanced 3270 user interface address space to read it. Set the permissions to allow access if necessary.

**KOBOD0007E: Error parsing DOC/ATR files for application *applid*, product code *product\_code*; errno=*error\_number*, rsno=*reason\_number***

**Explanation**

A problem was encountered parsing the information from the DOC or ATR file for the indicated application.

**System action**

The Object Definition Interchange (ODI) loader subcomponent continues processing the DOC and ATR files looking for other parsing errors, but does not keep the information from these files in the ODI cache.

**User response**

Since the DOC and ATR files are generated files, this error should only occur if a file has been corrupted or altered. Restore the original versions of these files.

**KOBOD0008E: The DOC/ATR files for application *applid*, product code *product\_code* will not be used due to errors.**

**Explanation**

The DOC and ATR files for the indicated application will not be used because errors were encountered reading and parsing the ODI information from them.

**System action**

The Object Definition Interchange (ODI) loader subcomponent does not add the ODI information for this application to the cache.

**User response**

Refer to earlier error messages to determine the root cause of the error.

**KOBOD0009E: Error allocating memory for ODI cache. errno=*error\_number*,  
rsnno=*reason\_number***

**Explanation**

An error occurred allocating memory to hold the Object Definition Interchange (ODI) cache information for this application.

**System action**

The ODI loader subcomponent does not add the ODI information for this application to the cache.

**User response**

The ODI cache is maintained in 64-bit virtual storage. Make sure the address space has been given sufficient storage to use for the ODI cache. If necessary, increase the value of the MEMLIMIT JCL parameter.

**KOBOD0010E: The requested application product ID, applid, is not a registered application.**

**Explanation**

A request for the Object Definition Interchange (ODI) information was received for an application product that is not registered with the OMEGAMON Enhanced 3270 user interface.

**System action**

The ODI Loader subcomponent stops processing the request and returns an error return code.

**User response**

The ODI cache is maintained in 64-bit virtual storage. Verify that the address space has been given sufficient storage to use for the ODI cache. Verify that the runtime environment was copied correctly. Also, check that the ODI is referenced in the KOBFCGAP and KOBREGAP members of the data set that is referenced in the RKANPAR DDNAME concatenation list. If the members are present and the ODI is correctly referenced, but the problem persists, contact IBM Software Support.

Capture the following diagnostic information:

- The OMEGAMON Enhanced 3270 user interface SYSPRINT log file
- A directory listing of the data sets referenced by the OMEGAMON Enhanced 3270 user interface RKANPARTV DD name
- A listing of the content for the members KOBFCGAP and KOBREGAP of the data set or data sets referenced in the RKANPAR DDNAME concatenation list

**KOBOD0011E: The application product DOC file, KppDOC, was not found.**

**Explanation**

The DOC file associated with an application could not be found by the Object Definition Interchange (ODI) loader component. The file names are the PDS member names that were used to locate the file. The *pp* value is the two-letter product code for the application that has the file missing.

**System action**

The ODI loader subcomponent stops processing the DOC and ATR files for this application.

**User response**

Verify that the *KppDOC* and *KppATR* files for the application product are located in the appropriate PDS and that the location of the files is in the concatenation list for the RKANPARTV DDNAME statement.

**KOBOD0012E: The application product ATR file, KppATR was not found.**

**Explanation**

The ATR file associated with an application could not be found by the ODI loader component. The file names show the PDS member name and z/OS® UNIX® System Services filename variations that were used.

**System action**

None.

**User response**

None.

**KOBOD0013E: The requested product code, *product\_code*, is not a registered application.****Explanation**

An Object Definition Interchange (ODI) refresh request was received for a product code that is not registered with the enhanced 3270 user interface.

**System action**

The ODI loader subcomponent stops processing the request and returns an error return code.

**User response**

Verify that the application has been properly installed and registered with the enhanced 3270 user interface and retry the request.

**KOBOD0014I: ODI file *filename* opened successfully.****Explanation**

The Object Definition Interchange (ODI) cache initialization process has opened a file in preparation for reading its content as input to its internal cache.

**System action**

The ODI loader subcomponent will process the file contents as input to its internal cache.

**User response**

None.

**KOBOD0015E: Command registration in KOBODISC subcomponent failed, *rc=return\_code, errno=error\_number, rsnno=error\_reason*****Explanation**

The Object Definition Interchange (ODI) loader subcomponent failed to register for enhanced 3270 user interface console commands.

**System action**

The ODI loader subcomponent will continue to run; however, it will not be able to respond to console commands.

**User response**

This is an internal error. Contact IBM Software support and supply the logs for the enhanced 3270 user interface address space.

**KOBOD0016E: Command wait in KOBODISC subcomponent failed, *rc = return\_code, errno=error\_number, rsnno=error\_reason*****Explanation**

The Object Definition Interchange (ODI) loader subcomponent failed to establish the routine that waits for its registered enhanced 3270 user interface console commands.

**System action**

The ODI loader subcomponent will continue to run, but it will not be able to respond to console commands.

### User response

This is an internal error. Contact IBM Software Support and provide the logs for the enhanced 3270 user interface address space.

**KOBOD0017E: Command deregistration in KOBODISC subcomponent failed, rc=return\_code, errno=error\_number, rsno=error\_reason**

### Explanation

The Object Definition Interchange (ODI) loader subcomponent failed to establish the routine that deregisters its registered enhanced 3270 user interface console commands.

### System action

The ODI loader subcomponent will continue its termination process.

### User response

This is an internal error. Contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBOD0018E: KOBODISC STOP processing failed, rc=return\_code, errno=error\_number, rsno=error\_reason**

### Explanation

The Object Definition Interchange (ODI) loader subcomponent encountered an error while processing a console STOP command.

### System action

The ODI loader subcomponent will continue its termination process.

### User response

This is an internal error. Contact IBM Software Support and supply the logs for the enhanced 3270 user interface address space.

**KOBOD0019I: processing cmd string = command**

### Explanation

The Object Definition Interchange (ODI) component has received an operator command.

### System action

The ODI loader subcomponent will process the received command; for example, in the case of the STOP command, it will terminate the ODI cache.

### User response

None

## KOBP messages

Messages that begin with the KOBP prefix are associated with the KCIPARSE program and are generated in the JESMSGLOG message log. KCIPARSE is used by both Parameter Generator (PARMGEN) and Configuration Manager.

For more information about these messages, contact IBM Software Support, and send the following documentation:

#### For PARMGEN:

- \$PARSE\*-related job output
- Contents of the &rte\_plib\_hilev.&rte\_name.WCONFIG data set
- Contents of the &gbl\_user\_jcl data set

**For Configuration Manager:**

- The full output from the JCL job that runs the action (for example, the **GENERATE** action).

**KOBP000E: INVALID PARAMETER**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP100E: SYSIN SYNTAX CHECKING COMPLETE. CODE:08**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP101E: NO SYSIN PARAMETERS SUPPLIED**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP102E: *nnnnnnnn* DD STATEMENT MISSING**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP103E: DDNAME *ddname* IS NOT A PDS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP104E: DDNAME *ddname* INVALID RECORD FORMAT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP105E: DDNAME *ddname* DESERV FAILURE RC:*ccc***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP106E: DDNAME *ddname* IS A NULL INPUT DATA SET**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP107E: CANNOT OPEN DDNAME *ddname***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP110E: MAXIMUM PDS DIRECTORY BLOCKS USED**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP111E: *mmmm* FAILED FOR MEMBER:*member* RC:*ccc/ccc***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP112E: UPDATE CONFLICT DSN:**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP113E: MEMBER *member* EXCEEDS MAX RECORD COUNT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP114E: I/O ERROR DURING *nnnnn nnnnnnnnnnnnnnnnnnn***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP115E: SYSIN RECORD LIMIT EXCEEDED**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP116E: LABEL TABLE OVERFLOW-**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP117I: SNA bypassed, SYSVTAMNETID/SYSVTAMSSCP not available**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP120E: (LINE *nnnn*) CONFIG - No members selected**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP200E: (LINE *nnnn*) INVALID KEYWORD**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP201E: (LINE *nnnn*) NO VALUE FOR KEYWORD**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP202E: (LINE *nnnn*) VALUE EXCEEDS MAXLENGTH *mmmm***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP203E: (LINE *nnnn*) EXPECTED THEN MISSING**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP204E: LINE *nnnn*) INVALID DDNAME *ddname***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP205E: (LINE *nnnn*) TRUNCATION ON**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP206E: INVALID PATTERN *pattern***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP207E: (LINE *nnnn*) NON-NUMERIC VARIABLE *vvvvvvvv***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP208E: (LINE *nnnn*) NON-NUMERIC VALUE *vvvvvvvv***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP209E: (LINE *nnnn*) INVALID OPERATION *x***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP210E: (LINE *nnnn*) INVALID NEGATIVE NUMBER - *vvvv***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP211E: (LINE *nnnn*) INPUT PARAMETER OVERFLOW**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP212E: (LINE *nnnn*) RESULT OVERFLOW**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP213E: (LINE *nnnn*) DIVISION BY ZERO**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP220E: VARIABLE TABLE IS FULL**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP221E: (LINE *nnnn*) INTERNAL STACK ERROR**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP222E: (LINE *nnnn*) INVALID KEYWORD TABLE ENTRY**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP223E: EXTENDED VARIABLE TABLE IS FULL**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP230E: (LINE *nnnn*) VARIABLE NOT FOUND: *nnnnnnnn***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP231E: MAXIMUM NUMBER OF IMBEDS (*uuuuu*) FOR *nnnn***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP232W: *nnnnnnnn* TRUNCATED**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP233E: (LINE *nnnn*) IMBED OVERFLOW: *vvvvvvvv***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP234E: (LINE *nnnn*) IMBED LOOP: *vvvvvvvv***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP235I: MEMBER=*member* LINE=*nnnnn* DELIMITER ERROR**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP300E: (LINE *nnnn*) AND DETECTED OUTSIDE OF IF**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP301E: (LINE *nnnn*) OR DETECTED OUTSIDE OF IF**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP302E: (LINE *nnnn*) UNMATCHED THEN STATEMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP303E: (LINE *nnnn*) UNMATCHED DO STATEMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP304E: (LINE *nnnn*) UNMATCHED ELSE STATEMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP305E: (LINE *nnnn*) UNMATCHED END STATEMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP306E: (LINE *nnnn*) NON-NUMERIC LOOP VARIABLE**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP307E: (LINE *nnnn*) LOOP MAXIMUM COUNT REACHED**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP308E: (LINE *nnnn*) DOUBLE LOOP CONFLICT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP309E: (LINE *nnnn*) TO SPECIFIED WITHOUT LOOP**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP311E: (LINE *nnnn*) MAXIMUM NESTED IF STATEMENTS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP312E: (LINE *nnnn*) SETTING SYSTEM VARIABLES PROHIBITED**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP313E: (LINE *nnnn*) CANNOT RESOLVE**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP314E: (LINE *nnnn*) WORDPOS INVALID ARGUMENTS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP315E: (LINE *nnnn*) WORDS ARGUMENT 1 IS NULL**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP316E: (LINE *nnnn*) WORD INVALID ARGUMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP317E: (LINE *nnnn*) LEFT INVALID ARGUMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP318E: (LINE *nnnn*) RIGHT INVALID ARGUMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP319E: (LINE *nnnn*) STRIP INVALID ARGUMENT**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP320E: (LINE *nnnn*) SUBSTR INVALID ARGUMENTS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP321E: (LINE *nnnn*) POS INVALID ARGUMENTS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP322E: (LINE *nnnn*) LASTPOS INVALID ARGUMENTS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP323E: (LINE *nnnn*) INVALID ARGUMENTS**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP324E: (LINE *nnnn*) UNABLE TO LOCATE VARIABLE**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP325E: (LINE *nnnn*) CONCAT OVERFLOW ARG1 *xxx* + ARG**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP326E: (LINE *nnnn*) WRITEMEM INVALID MEMBER *member***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP327E: (LINE *nnnn*) WRITEMEM INVALID KEYWORD**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.



**KOBP338E: (LINE *nnnn*) Invalid name - *mmmmmmmm***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP339E: (LINE *nnnn*) DELMEM INVALID KEYWORD**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP350E: (LINE *nnnn*) UNSUPPORTED FUNCTION**

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBP400I: STORAGE *ssssssss A=aaaaaaaa L=nnnnnnn ID=***

**User response**

Gather the [requested documentation](#) and contact IBM Software Support.

**KOBR – KOBU messages**

These messages are associated with the OMEGAMON enhanced 3270 user interface, which is part of the OMEGAMON Base component. By default, trace and error logs are created in SYSPRINT. (An alternate log location may have been specified, using standard JCL services.) Most of the messages are prefixed by a timestamp and thread ID.

**KOBRR0001E: Column *column\_name* not selected. It cannot be indexed.**

**Explanation**

The column specified was referenced in an ORDER BY clause, but was not selected. If a column is to be used to order the records, it must be explicitly selected in the QUERY statement.

**System action**

The table records are not ordered.

**User response**

Correct your QUERY by adding the column name to the SELECT statement. If the query was distributed by IBM, report this problem to IBM Software Support.

**KOBRR0002E: Eyecatch check of row index failed: *control\_block\_identifier*.**

**Explanation**

The request router has detected an internal error during the process of indexing query data.

**System action**

The data from the query is not ordered.

**User response**

Report this message to IBM Software Support.

**KOBRR0003E: Index tree initialization failed. rc=*n*, errno=*x*, rsn=*y*.**

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The data from the query is not ordered.

**User response**

Report this message to IBM Software Support.

**KOBRR0004E: Index tree corruption found: *eyecatch\_value*.**

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The request router will not function.

**User response**

Report this message to IBM Software Support.

**KOBRR0005E: Conversion of index failed for column *column\_name*. rc=*return\_code*,  
errno=*error\_code*, rsn=*error\_reason***

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The request router will not function.

**User response**

Report this message to IBM Software Support.

**KOBRR0006E: Index cleanup failed for column *column\_name*. rc=*n*, errno=*x*, rsn=*y***

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The request router will not function.

**User response**

Report this message to IBM Software Support.

**KOBRR0007E: Indexing of a row failed. rc=*n*, errno=*error\_code*, rsn=*error\_reason***

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The request router will not function.

**User response**

Report this message to IBM Software Support.

**KOBRR0008E: Indexing of column *column\_name* failed. rc=*return\_code*,  
errno=*error\_code*, rsno=*error\_reason***

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The request router will not function.

**User response**

Report this message to IBM Software Support.

**KOBRR0009E: Re-indexing of column *column\_name* failed. rc=*return\_code*,  
errno=*error\_code*, rsn=*error\_reason***

**Explanation**

The request router has detected an internal error during processing of an ORDER BY keyword or a request for sorted data.

**System action**

The request router will not function.

**User response**

Report this message to IBM Software Support.

**KOBRR0033I: After CELQPIPI init\_sub CELQPIPI=*address* TOKEN=*token* RC=*return-code***

**Explanation**

The Tivoli OMEGAMON Manager (TOM) address space called the z/OS Language Environment® CELQPIPI init\_sub function, but the call ended with a non-zero return code *return-code*.

**System action**

Processing continues. Some TOM functionality might not work. The TOM log might contain subsequent error messages with additional details.

**User response**

If the *return-code* value is 8 or 32, the TOM was unable to load one or both of load modules KOBRES01 and KOBRSRT01. This error can occur if the TOM runtime environment installation (or upgrade) was incomplete or unsuccessful. Check that the TKANMODP load library in the TOM STEPLIB concatenation contains both of these modules and that both of them are AMODE 64. If additional assistance is needed, collect the TOM log and contact IBM Software Support.

For other *return-code* values, collect the TOM log and contact IBM Software Support.

**KOBTC0018E: connect\_local: CONNECT() FAIL Err=nn Rsn=0xnxxxxxxx.**

**Explanation**

OMEGAMON Subsystem Near Term History component is not able to communicate with the RMF Distributed Data Server (DDS - GPMSEVERE) data provider. This message with Err=0 and Rsn=0x00000000 values may occur as part of the normal OMEGAMON Subsystem stop (shutdown) process.

Please refer to TCP/IP documentation for an explanation of the Err (error) and Rsn (reason) codes.

If this message is occurring frequently during the course of normal OMEGAMON Subsystem operation, please verify that the RMF and GPMSEVERE are running and connectable.

**System action**

When this message occurs outside of OMEGAMON Subsystem stop processing, OMEGAMON on z/OS Near Term History (NTH) data collection will not be possible.

**System programmer response**

Verify that RMF and related GPMSEVERE started tasks are running and connectable. If this is the case, examine the Err and Rsn values returned from the TCP/IP for an explanation of the connect error to help determine the cause of the error. Verify that the TCP/IP configuration and operation is running normally. If RMF, GPMSEVERE, and TCP/IP are ruled out as possible causes, capture the OMEGAMON subsystem Job log and contact IBM support.

**KOBUT001I: CreatePath #1 call, type(server\_type), NCS:{SOCKET = protocol :#address} CT/DS:{SERVER = server\_name USER = user\_name TERMPATH = YES}**

**Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process is attempting to create a communications path between this address space and a hub or remote monitoring server endpoint. This discovery process uses the protocol, address, and port that is listed in the message. A type (H) value indicates a hub monitoring server, while a type (R) value indicates a remote monitoring server.

**System action**

None.

**System programmer response**

None.

**KOBUT002I: CreatePath #1 done, type(server\_type), RC=return\_code**

**Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process attempted to create a communications path between this address space and a hub or remote monitoring server endpoint. This process resulted in the return code listed. A type(H) value indicates a hub monitoring server, while a type(R) value indicates a remote monitoring server.

**System action**

None.

**System programmer response**

None.

**KOBUT003W: CreatePath failed, possibly due to a communications protocol mismatch. Check that the KDE\_TRANSPORT value (in this address space) contains at least one**

**enabled protocol that matches the KDE\_TRANSPORT value in the target TEMS:**  
*monitoring\_server\_name*

#### **Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process attempted to create a communications path between this address space and a hub or remote monitoring server endpoint. However, that attempt failed, possibly because there are no communication protocols (for example, IP.PIPE) in common between this address space and the endpoint.

#### **System action**

None.

#### **System programmer response**

Check that the KDE\_TRANSPORT and KDC\_FAMILIES environmental variables in this address space and the monitoring server processes (z/OS® address spaces or non-z/OS processes) contain matching communications protocols. For example, that both sides include IP.PIPE, or IP.SPIPE communication protocols.

**KOBUT004I: CT\_CMSLIST #0.0, LbLookup text(protocol : server\_address)**

#### **Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process is attempting to use Location Broker services to find a hub or remote monitoring server to which a connection can be attempted.

#### **System action**

None.

#### **System programmer response**

None.

**KOBUT005I: CT\_CMSLIST #sequence, LbLookup nodeAddr(hub\_name),  
sockString(protocol :#ipv4\_address.port.) CT\_CMSLIST #sequence, LbLookup  
nodeAddr(hub\_name), sockString(protocol :#(ipv6\_address.port).) CT\_CMSLIST  
#sequence, LbLookup nodeAddr(hub\_name),  
sockString(protocol :#sna\_address.port.)**

#### **Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found the listed remote or hub monitoring server by using Location Broker services.

#### **System action**

None.

#### **System programmer response**

None.

**KOBUT006I: CT\_CMSLIST #0.0, LbLookup failed RC(return\_code)**

#### **Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process failed to find a hub monitoring server at one of the endpoints when using Location Broker services. This message should not be mistaken for an error. It indicates that the endpoint is a remote monitoring server.

**System action**

None.

**System programmer response**

None.

**KOBUT007I: Init\_TEMS #n, type(*server\_type*), path(*server\_address*)****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process is attempting to connect to the hub or remote monitoring server that is listed in the message. A type(H) value indicates a hub monitoring server, while a type(R) value indicates a remote monitoring server.

**System action**

None.

**System programmer response**

None.

**KOBUT008I: Init\_TEMS leaving loop, found=*n*****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process was able to connect to a hub or remote monitoring server if "found=1," otherwise the connection failed.

**System action**

None.

**System programmer response**

None.

**KOBUT009I: HOSTADDR protocol(*communication\_protocol*)****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found the listed communications protocol for the hub monitoring server by querying the HOSTADDR field of the O4SRV.INODESTS table.

**System action**

None.

**System programmer response**

None.

**KOBUT010I: HOSTADDR host(*monitoring\_server\_address*)****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found the listed host address for the hub monitoring server by querying the HOSTADDR field of the O4SRV.INODESTS table.

**System action**

None.

**System programmer response**

None.

**KOBUT011I: HOSTADDR port(*port\_number*)****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found the listed port number for the hub monitoring server by querying the HOSTADDR field of the O4SRV.INODESTS table.

**System action**

None.

**System programmer response**

None.

**KOBUT012I: HOSTADDR PATH (*host\_address\_path* + *communication\_protocol*)****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found the complete listed path value for the hub monitoring server by querying the HOSTADDR field of the O4SRV.INODESTS table.

**System action**

None.

**System programmer response**

None.

**KOBUT014I: User supplied KOB\_CREATEPATH(*path*)****Explanation**

The user supplied a KOB\_CREATEPATH environmental variable to control how the KOBAGENT connects to a hub or remote monitoring server. Supplying this variable is not typical and should be done only under the direction of IBM® support.

**System action**

None.

**System programmer response**

None.

**KOBUT015I: KDS\_HUB({\*LOCAL | \*REMOTE}) found****Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found this address space was either a hub monitoring server(\*LOCAL value) or a remote monitoring server(\*REMOTE value).

**System action**

None.

**System programmer response**

None.

## **KOBUT016I: No KDS\_HUB, running in TEMA**

### **Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found this address space was an Agent address space (not a hub monitoring server and not a remote monitoring server).

### **System action**

None.

### **System programmer response**

None.

## **KOBUT021I: paths: Path # *n*, server type=*server\_address\_path*.**

### **Explanation**

The Hub Tivoli® Enterprise Monitoring Server discovery process found one or more hub or remote monitoring server destinations, as listed. A connection will be attempted to each of these destinations until a successful connection is established. A server type(H) value indicates a hub monitoring server, while a server type(R) value indicates a remote monitoring server.

### **System action**

None.

### **System programmer response**

None.

## **KOBUT030I: DROP\_HUB delete pConn Object [validation failed], *reason*.**

### **Explanation**

A problem occurred during cleanup after detecting the loss of a hub TEMS connection. The text "validation failed" may not always be present.

The following values are possible for the *reason*:

- ConnObj\*: *addr*, .Sequence#: *xxxx* .Hasid: *asid*, .Haddr: *addr*
- already freed
- pConnHandle is NULL

### **System action**

None.

### **System programmer response**

None.

## **KOBUT031I: Drop\_HUB: *object-name* object is already deleted**

### **Explanation**

The Drop\_HUB subroutine detected and prevented an attempt to delete an instance of object *object-name* that has already been deleted.

### **System action**

Program processing continues.

### **Programmer response**

None.

**KOBUT032I: Drop\_HUB: an attempt to restore old pConn address *xxxx* failed; new address *yyyy* is already in place**

**Explanation**

The Drop\_HUB subroutine detected and prevented an attempt to store an obsolete pConn object address into a control block.

**System action**

Program processing continues.

**Programmer response**

None.

**KOBUT099I: In {NodeHdr | Connect} {ctor(),#n | dtor()}**

**Explanation**

These internal trace messages indicate when a Connect or NodeHdr object is created or destroyed.

**System action**

None.

**System programmer response**

None.

## KPD and KFAPD messages

Messages that begin with the KPD prefix are associated with the persistent data store. Messages that begin with the KFAPD prefix are issued by the KPD component and refer to errors in KPD commands.

**KFAPD0001E: System Name: Data set *variable* is not known to the persistent data store.**

**Explanation**

An INITDS command was encountered and the specified data set name has not been defined to the persistent data store.

**Operator response**

Use the ADDFILE command to assign the specified data set to a file group and then reissue the INITDS command.

**KFAPD0001E\_d: Data set name missing or invalid.**

**Explanation**

An INITDS, REMOVE or an ALLOCATE command was encountered. The data set name parameter on the command was either missing or invalid.

**Operator response**

In the case of the REMOVE or ALLOCATE command, locate the persistent data store startup commands and fix the invalid or missing data set name. In the case of the INITDS command, fix the command in the persistent data store startup commands or reissue the command by using the correct syntax.

**KFAPD0001E\_dd: Error *variable* initializing *variable*.**

**Explanation**

An I/O error occurred while initializing the specified data set. The error value displayed is the I/O error code.

**Operator response**

Allocate the data set on a different I/O device. Then redefine it to the persistent data store and reissue the INITDS command.

**KFAPD0002E: ALLOCATE already issued for this file.**

**Explanation**

The ALLOCATE command has already been issued for this file.

**Operator response**

Issue other persistent data store commands to begin using the allocated file.

**KFAPD0002E\_d: Data set *variable* can not be initialized because it is *variable*.**

**Explanation**

The INITDS was unable to initialize the specified data set *variable* for the reason *variable*.

**Operator response**

If the reason is that the file is the current active data store, issue the SWITCH command to make a different file in the group the active data store. Then reissue the INITDS command. If the reason is that the file is offline, issue the ADDFILE command to add the specified file to a group. Then reissue the INITDS command.

**KFAPD0003E: Error opening file *variable* for output.**

**Explanation**

An I/O error occurred while attempting to open the specified file for output.

**Operator response**

Check the joblog and logrec files for I/O device errors. If the error persists, allocate the file on a different I/O device.

**KPDCM000: *variable*.**

**Explanation**

This message is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KPDCM001: RESULT results*variable*.**

**Explanation**

This message is an informational message and does not require further action. The data displayed is the count of result lines displayed for the command issued.

## **KPDCM010: KPDCCMD persistent data store not available.**

### **Explanation**

While attempting to process a persistent data store command, the system determined that the PDS Service vector was unavailable. The command is ignored.

### **Operator response**

Check the RKPLOG to see if the persistent data store is down or has abended. Shut down the persistent data store address space, collect the RKPLOG and RKLLOG files, and any SVCDUMP file results, produced and send to IBM Software Support. Restart the persistent data store address space.

## **KPDCM011: KPDCCMD persistent data store command interface not available.**

### **Explanation**

While attempting to process a persistent data store command, the system determined that the command interface was unavailable. The command is ignored.

### **Operator response**

Check the RKPLOG to see if the persistent data store is down or has abended. Shutdown the persistent data store address space, collect RKPLOG and RKLLOG, and any SVCDUMP produced and send to IBM Software Support. Restart the persistent data store address space.

## **KPDCM012: KPDCCMD Error *variable* attempting to setup request for commands.**

### **Explanation**

While attempting to process a persistent data store command, an error occurred during setup for processing a command. The command is ignored.

### **Operator response**

Check the RKPLOG to see if the persistent data store is down or has abended. Shutdown the persistent data store address space, collect RKPLOG and RKLLOG, and any SVCDUMP produced and send to IBM Software Support. Restart the persistent data store address space.

## **KPDCM013: KPDCCMD: command length *variable* longer than maximum *variable*.**

### **Explanation**

The persistent data store command that was entered is too long. The command is ignored.

### **Operator response**

Make the command shorter and re-enter the command.

## **KPDMN001: KPDMON starting.**

### **Explanation**

This is an informational message and does not require further action. This message indicates that KPDMON has started. KPDMON is a monitor that tracks the health of the persistent data store processes.

## **KPDMN002: KPDMON giving up after 5 minutes.**

### **Explanation**

This is an informational message indicating that the persistent data store did not complete startup processing.

### **Operator response**

Check the RKPDLLOG to see if the persistent data store is down or has abended. Shutdown the persistent data store address space, collect RKPDLLOG and RKLVLLOG, and any SVCDUMP produced and send to IBM Software Support. Restart the persistent data store address space.

## **KPDMN003: WAITING FOR PDS TO GO ACTIVE.**

### **Explanation**

This is an informational message and does not require further action. This message indicates that KPDMON is waiting for the persistent data store to complete startup processing.

## **KPDMN004: PDS IS INACTIVE.**

### **Explanation**

This is an informational message indicating that the persistent data store is inactive.

### **Operator response**

Check the RKPDLLOG to see if the persistent data store is down or has abended. Shutdown the persistent data store address space, collect RKPDLLOG and RKLVLLOG, and any SVCDUMP produced and send to IBM Software Support. Restart the persistent data store address space.

## **KPDMN005: PDS IS ACTIVE.**

### **Explanation**

This is an informational message and does not require further action. This message indicates that the persistent data store has completed startup processing.

## **KPDMNT00I: Data set = *variable*, Started Task = *variable*, Job Name = *variable*.**

### **Explanation**

This is an informational message and does not require further action. This message indicates a persistent data store maintenance job is currently running. The message will be immediately followed by one of the following messages: KPDMNT01W, KPDMNT02E, or KPDMNT03S.

## **KPDMNT01W: Maintenance for persistent data store has not completed after waiting 0:05:00.**

### **Explanation**

This is a warning level message indicating that a maintenance job has been running for 5 minutes and has not completed yet.

### **Operator response**

If the maintenance should have completed in less than 5 minutes, check the RKPDLLOG file for errors. Also, check the system log for messages that must be replied to or errors that might be holding up the persistent data store maintenance.

## **KPDMNT02E: Maintenance for persistent data store has not completed after waiting 0:10:00.**

### **Explanation**

This is a error level message indicating that a maintenance job has been running for 10 minutes and has not completed yet.

### **Operator response**

If the maintenance should have completed in less that 10 minutes, check the RKPLOG file for errors. Also, check the system log for messages that must be replied to or errors that may be holding up the persistent data store maintenance.

## **KPDMNT03S: Maintenance for persistent data store has not completed after waiting 0:15:00.**

### **Explanation**

This is a severe level message indicating that a maintenance job has been running for 15 minutes and has not completed yet.

### **Operator response**

If the maintenance should have completed in less that 15 minutes, check the RKPLOG file for errors. Also, check the system log for messages that must be replied to or errors that may be holding up the persistent data store maintenance.

## **KPQ messages**

Messages with the KPQ prefix are associated with the persistent data store.

### **KPQA106E: KPQSPDSH: UNABLE TO LOCATE GSA**

#### **Explanation**

An internal control block could not be located.

#### **System action**

OMEGAMON continues; however, near-term history may be lost.

#### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

### **KPQD004E: KPQSPDSH: UNABLE TO FIND PQ VECTOR**

#### **Explanation**

An internal control block could not be located.

#### **System action**

OMEGAMON continues; however, near-term history may be lost.

#### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD005E: KPQHINIT: APF AUTHORIZATION REQUIRED FOR DATA COLLECT**

### **Explanation**

All load libraries specified in the STEPLIB DD statement of the Tivoli® Enterprise Monitoring Server address space are not APF authorized.

### **System action**

The initialization of the Tivoli® Enterprise Monitoring Server terminates.

### **User response**

Make sure that all the Tivoli® Enterprise Monitoring Server load libraries are APF-authorized prior to restarting the Tivoli® Enterprise Monitoring Server address space. The destination is the Tivoli® Enterprise Monitoring Server Engine log file, RKLVLLOG.

## **KPQD006I: KPQHINIT: RKPDIIN DATASET NOT OPENED, REASON CODE = *rsn***

### **Explanation**

During PDS V2 initialization, the RKPDIIN data set failed to open.

### **System action**

PDS V2 terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD007E: KPQHINIT RKPDIIN DATASET NOT READ, REASON CODE = *rsn***

### **Explanation**

During PDS V2 initialization, the RKPDIIN data set could not be read.

### **System action**

PDS V2 terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD008E: KPQHINIT: APPLICATION TABLE IS EMPTY**

### **Explanation**

During PDS V2 initialization, the RKPDIIN data set was found to be empty. This usually happens when you have enabled PDS V2 by setting the **RTE\_PDS2\_ACTIVATION** parameter to Y but did not install (or did not enable) any of the products that support PDS V2.

### **System action**

PDS V2 terminates. The engine continues to run without enabling PDS V2.

### **User response**

If no product that supports PDS V2 was installed in the RTE, no action is required. If, however, a product that supports PDS V2 was installed and is expected to be activated, collect the contents of the RKPDIIN data set and contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## KPQD009E: KPQHINIT: CONFIGURATION ERROR, RKANPARU(KPQHINIT) NOT FOUND

### Explanation

During PDS V2 initialization, the RKANPARU (KPQHINIT) member was not found. This usually happens when you have enabled PDS V2 by setting the **RTE\_PDS2\_ACTIVATION** parameter to Y but did not install (or did not enable) any of the products that support PDS V2. If, however, a product that supports PDS V2 was installed and is expected to be activated, this could happen if PDS V2 was configured incorrectly or because the member was removed manually.

### System action

PDS V2 terminates. The engine continues to run without enabling PDS V2.

### User response

If no product that supports PDS V2 was installed in the runtime environment, no action is required. If, however, a product that supports PDS V2 was installed and is expected to be activated, PDS V2 should be configured again. For more information, see [How to: Activate PDS V2](#).

## KPQD009I: KPQDTERM: TERMINATING

### Explanation

The PDS V2 component is terminating.

### System action

None.

### User response

No action is required.

## KPQD010E: KPQHINIT: CONFIGURATION ERROR, PDSV1 PARM NOT FOUND

### Explanation

During PDS V2 initialization, the **PDSV1** parameter was not found in the RKANPARU (KPQHINIT) member. **PDSV1** is a mandatory parameter that should be present in the RKANPARU (KPQHINIT) member and be set to ON or OFF. This could happen if PDS V2 was configured incorrectly or because the member was edited manually.

### System action

PDS V2 terminates. The engine continues to run without enabling PDS V2.

### User response

Perform PDS V2 configuration again. For more information, see [How to: Activate PDS V2](#).

## KPQD012E: KPQHINIT: ALLOCATION FAILED FOR [*work\_area*] SIZE=[*bytes*]

### Explanation

Data collection initialization failed during allocation of the required work area name indicated in the message. The size (in bytes) required for the work area is also displayed.

### System action

The initialization of Tivoli® Enterprise Monitoring Server terminates.

### User response

Change the LIMIT parameter depending on the number of devices defined to your system. The LIMIT value is expressed as a power of 2, thus LIMIT (22,x) specifies 4 meg, LIMIT (23,x) specifies 8 meg, and so on. Each device table entry is 320 bytes, so LIMIT (23,x) allows allocation of a device table large enough to accommodate about 26,000 devices. LIMIT (24,x) accommodates twice that many. If the error still occurs, contact IBM® Software Support. The destination is the Tivoli® Enterprise Monitoring Server Engine log file, RKLVLLOG.

## **KPQD013E: KPQSPDSH: ALLOCATION FAILED FOR WORK AREA**

### **Explanation**

A work area could not be allocated.

### **System action**

OMEGAMON continues; however, near-term history may be lost.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD013W: [*module\_name*] LOAD FAILED FOR [*loaded\_module\_name*] - [*result*]**

### **Explanation**

An attempt to load [*loaded\_module\_name*] failed. The effect of this load failure on processing indicated by [*result*].

### **System action**

Processing continues or terminates according to the information contained in [*result*].

### **User response**

Verify that [*loaded\_module\_name*] is in the Tivoli® Enterprise Monitoring Server RKANMODL load library concatenation and is executable. If it is available and executable, contact IBM® Software Support.

## **KPQD029E: [*module name*]: SERVICE TASK ATTACH FAILED [*code*] - [*text*]**

### **Explanation**

This message indicates that an internal error has occurred. Module [*module name*] attempted to do an ATTACH, but it failed with return code [*code*]. The text further identifies the failing component.

### **System action**

The OMEGAMON® product continues, but the operation triggering the error does not complete.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD033W: [*module name*]: SDUMP ERROR, RC = [*code*]**

### **Explanation**

This message indicates that an attempt to issue the SDUMPX service failed with return code *code*. The dump has been attempted as a result of an abend or unexpected situation.

### **System action**

The OMEGAMON® product continues, but the dump that may be required for diagnosis is not available.

### **User response**

Check the return code to see if it indicates an environmental error that can be corrected. Otherwise, contact IBM® Software Support.

## **KPQD034I: [*module name*]: SDUMP [*dumpname*] SUCCESSFULLY TAKEN**

### **Explanation**

This message indicates that an SVC dump was successfully taken with title [*dumpname*]. The dump was taken as a result of an abend or other unexpected situation.

**System action**

The OMEGAMON® product continues. The dump may be required by support for problem determination.

**User response**

Contact IBM® Software Support. Save the dump as it may be required for problem determination. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQD054E: KPQDBCMD COMMAND FUNCTION INVALID OR OMITTED****Explanation**

The PQDEBUG operator command function is invalid.

**System action**

KPQD055I messages are issued.

**User response**

Correct the function and reissue the PQDEBUG command.

**KPQD055I: *help text*****Explanation**

This message documents the PQDEBUG syntax.

**System action**

None.

**User response**

Note the syntax and use when reissuing the PQDEBUG command.

**KPQD056E: KPQDBCMD UNABLE TO ACCESS DEBUG FLAG AREA****Explanation**

OMEGAMON was unable to access the area where debug flags are set.

**System action**

The PQDEBUG command terminates.

**User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQD090E: KPQSPDSH: MODULE [*module name*] NOT AVAILABLE****Explanation**

The historical module [*module name*] is not available.

**System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

## **KPQD0100E: [module name] ABENDED: [abend information]**

### **Explanation**

This message indicates that an internal error has occurred.

### **System action**

The OMEGAMON® product continues, but the operation triggering the error does not complete.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD101E: KPQDBCMD @KPQ@ VECTOR NOT FOUND**

### **Explanation**

During execution of the PQDEBUG operator command, the PDS V2 vector was not found.

### **System action**

The PQDEBUG command terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD102E: KPQDBCMD PQDEBUG VECTOR NOT FOUND**

### **Explanation**

During execution of the PQDEBUG operator command, the PQDEBUG vector was not found.

### **System action**

The PQDEBUG command terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQD0102I: KPQHINIT: KPQHINIT INPUT PARAMETER: *parameter***

### **Explanation**

During PDS V2 initialization, RKANPARU(KPQHINIT) was found; this parameter was found in the member.

### **System action**

None.

### **User response**

No action is required.

## **KPQD0105E: [detecting\_module\_name]: UNABLE TO LOAD [module]**

### **Explanation**

An attempt to issue an internal load for the specified [module] failed.

### **System action**

Processing continues; however, a loss of functionality will occur.

**User response**

Verify that *[module]* is in the Tivoli® Enterprise Monitoring Server RKANMOD load library concatenation. If the module appears to be available, contact IBM® Software Support.

**KPQD0106E: *[module name]*: UNABLE TO ALLOCATE *[nnn]* BYTES OF STORAGE, RC = *[rc]*****Explanation**

An attempt to \$GMEM *[nnn]* bytes of storage failed with RC = *[rc]*. Processing for this function terminates.

**System action**

Processing continues; however functionality will be impacted.

**User response**

Contact IBM® Software Support.

**KPQD107E: KPQDBCMD: KPQ VECTOR NOT FOUND****Explanation**

While running the **KPQ** operator command, the KPQ vector was not found.

**System action**

The **KPQ** command terminates.

**User response**

View the related messages in the ITMS:Engine log, RKLVL0G. Contact IBM® Software Support.

**KPQD108E: KPQDBCMD: MODULE KPQSPCMD NOT AVAILABLE, RC = *rc*****Explanation**

While running the **KPQ** operator command, the command handler module was not available. Possible reason: version 2 of the persistent data store (PDS V2) has not been activated in an OMEGAMON® runtime environment (RTE). Using OMEGAMON® monitoring agents as a data source for OMEGAMON® Data Provider requires PDS V2.

**System action**

The **KPQ** command terminates. OMEGAMON monitoring agents will not send data to OMEGAMON® Data Broker.

**User response**

Check that PDS V2 is activated. For example, check that the RTE parameter **RTE\_PDS2\_ACTIVATION** is set to Y (the default value). For more details on activating PDS V2, see [PDS V2 activation](#). Check that PDS V2 has initialized. View the related messages in the ITMS:Engine log, RKLVL0G. Look for message [KPQS217I](#) confirming that PDS V2 has initialized.

If you cannot resolve the issue, contact IBM® Software Support.

**KPQH000E: *[parameter]* ADDRESS IS ZERO****Explanation**

This message indicates that an internal error has occurred.

**System action**

The module encountering the error will terminate. Other product functions may continue to operate as normal.

**User response**

Contact IBM® Software Support.

**KPQH001E: [module\_name]: [parameter] IS INVALID, [details\_if\_any]**

**Explanation**

An error has occurred in the noted module.

**System action**

The system action that occurs varies. Some near-term history may be lost.

**User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQH002I: [parameter] DUMP AT [parameter address]:**

**Explanation**

Content of [parameter] at [parameter address] will be printed in hex after this message.

**System action**

None.

**User response**

No action is required.

**KPQH003I: MODULE STARTED, BUILD NUMBER IS [build number]**

**Explanation**

Module [module\_name] is started and the build number for the module is [build number].

**System action**

None.

**User response**

No action is required.

**KPQH004E: INITIALIZATION ERROR, [details if any]**

**Explanation**

This message indicates that an internal error has occurred during initialization.

**System action**

The module encountering the error will terminate. Other product functions may continue to operate as normal.

**User response**

Contact IBM® Software Support.

**KPQH004W: INITIALIZATION WARNING, [details if any]**

**Explanation**

This message indicates that an unexpected condition has occurred during initialization.

**System action**

The module producing the warning message will continue to work. Depending on the message details, some of the functionality might be disabled.

**User response**

Depending on the message details, take the corresponding action or contact IBM® Software Support.

**KPQH005I: [module\_name]: HISTORY TASK [task\_name] DETACHED****Explanation**

The PDS V2 agent subtask has been detached.

**System action**

None.

**User response**

This behavior is normal during agent termination. If it occurs at other times, contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQH006I: MODULE TERMINATED****Explanation**

The history module [module\_name] has terminated.

**System action**

None.

**User response**

No action is required.

**KPQH007W: INDICES HAVE NOT BEEN RE-BUILT FROM DISK, RC = [return code]****Explanation**

The existing historical data has not been indexed successfully.

**System action**

The module encountering the error will continue to work. Some of the historical data might not be available for the application specified in the last two characters of [module\_name].

**User response**

Contact IBM® Software Support.

**KPQH008E: EXECUTION ERROR, [details if any]****Explanation**

This message indicates that an internal error has occurred during execution.

**System action**

The module encountering the error will continue to work. Depending on the message details, some of the functionality might not be available for the application specified in the last two characters of [module\_name].

**User response**

Contact IBM® Software Support.

## **KPQH008W: EXECUTION WARNING, *[details if any]***

### **Explanation**

This message indicates that an unexpected condition has occurred during execution.

### **System action**

The module producing the warning message will continue to work. Depending on the message details, some of the functionality might not be available for the application specified in the last two characters of *[module\_name]*.

### **User response**

Depending on the message details, take the corresponding action or contact IBM® Software Support.

## **KPQH009I: *[module\_name]*: *[parameter]* - *[details]***

### **Explanation**

This message provides diagnostic information related to a previous message.

### **System action**

None.

### **User response**

Provide diagnostic information if contacting IBM® Software Support.

## **KPQH010I: *[module\_name]*: *[recovery\_information]***

### **Explanation**

This message provides diagnostic information related to a previous ABEND.

### **System action**

None.

### **User response**

Provide diagnostic information to IBM® Software Support.

## **KPQH011E: *[module\_name]*: I/O FAILED, *[details]***

### **Explanation**

An I/O error occurred.

### **System action**

The system action that occurs varies. Some near-term history may be lost.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

## **KPQH012I: *[module\_name]*: *[IDCAMS\_output]***

### **Explanation**

This message provides IDCAMS output related to a previous message.

### **System action**

None.

**User response**

Provide diagnostic information to IBM® Software Support.

**KPQH013W: [module\_name]: FAILED TO EXTEND A DATASET, WRITE REQUESTS WILL BE IGNORED TO [data\_set\_name]****Explanation**

PDS V2 was unable to extend the current history data set. This behavior usually indicates that the DATACLASS assigned to the history data set does not have Extent Constraint Removal.

**System action**

PDS V2 stops recording near-term history until the start of the next time period.

**User response**

Check the assigned DATACLASS and make changes. If Extent Constraint Removal is not desired, near-term history data is lost until the start of the next time period.

**KPQH014I: [number of datasets] HISTORY DATASETS EXIST, [number of datasets] DATASETS USED, PDS MIGRATION WILL [NOT] BE PERFORMED****Explanation**

The message is printed during the historical modules initialization and indicates the number of historical data sets being used. It also indicates whether the migration of the existing PDS history is going to be performed.

**System action**

None.

**User response**

No action is required.

**KPQH015I: TABLE [table\_name] HAS BEEN MIGRATED, RECORDS MIGRATED = [migrated\_record\_count], IGNORED = [ignored\_record\_count], OUTDATED = [outdated\_record\_count]****Explanation**

The message indicates information about the tables and records being migrated.

**System action**

None.

**User response**

No action is required.

**KPQH016I: KPQHSMGR: PERFORMING [OUT-OF-SPACE | SCHEDULED] DATASET SWITCH FOR *application*****Explanation**

This informational message indicates that the recording data set for the persistent data store is switching to the next available data set for the identified application. OUT-OF-SPACE indicates a space-based switch, and SCHEDULED indicates a time-based switch. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

**System action**

None.

**User response**

No action is required.

**KPQH017I: KPQHSMGR: SWITCH SUCCESSFUL FOR *application*, WRITING TO *data\_set\_name*****Explanation**

This informational message indicates that the recording data set for the persistent data store for the identified application has switched to the next data set successfully. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS), and the *data\_set\_name* is the active recording data set.

**System action**

None.

**User response**

No action is required.

**KPQH018E: KPQHSMGR: SWITCH FAILED FOR *application*, RC = *return\_code*****Explanation**

An attempt to switch to the next recording data set for the persistent data store failed. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

**System action**

Only partial data may have been written.

**User response**

Check if any storage issues are present on your system. If you cannot address the problem, contact IBM® Software Support.

**KPQH019I: KPQHSMGR: *number\_of\_data\_sets* PDSV2 DATASETS HAVE BEEN FOUND****Explanation**

This informational message provides the number of PDS V2 data sets that have been found. Typically, eight PDS V2 data sets are allocated and online at all times. Seven data sets are used for writing data, and one data set remains empty for future switches.

**System action**

None.

**User response**

No action is required.

**KPQH020I: KPQHSMGR: *data\_set\_statistics*****Explanation**

This informational message provides details about a PDS V2 data set found for a particular application when the monitoring server or monitoring agent starts up. The statistics include the data set name, status, used space and other information. Any timestamps are in GMT.

**System action**

None.

**User response**

No action is required.

**KPQH021I: KPQHSMGR: *application* PDSV2 STORE STATE: ACTIVE  
DATASETS = *data\_set\_number*****Explanation**

This informational message provides the number of PDS V2 data sets that are active for the identified application. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS). Typically, eight PDS V2 data sets are allocated and online at all times. Seven data sets are used for writing data, and one data set remains empty for future switches.

**System action**

None.

**User response**

No action is required.

**KPQH022I: KPQHSMGR: *data\_set\_LLQ*: *statistics*****Explanation**

This informational message provides details about a specific PDS V2 data set. *data\_set\_LLQ* is the low-level qualifier of the data set name. Statistics include the DD name, status, record count, used space and other information. Any timestamps are in GMT.

**System action**

None.

**User response**

No action is required.

**KPQH023W: KPQHSMGR: DATASET HAS NOT BEEN RESERVED FOR  
*application*, RC = *return\_code*, PLEASE ADDRESS POTENTIAL SPACE  
ISSUES****Explanation**

An attempt to reserve the next recording data set for the persistent data store failed.

**System action**

Recording continues using the active recording data set, but the capacity of the data store will decrease, allowing for fewer records to be stored until the issue is resolved.

**User response**

Check if any storage issues are present on your system. If you cannot address the problem, contact IBM® Software Support.

**KPQH024I: *module\_name*: MIGRATION SUCCESSFULLY COMPLETED****Explanation**

This informational message indicates that migration to PDS V2 data sets completed successfully for the application identified in module *module\_name*. The last two characters of the module name are the code of the component. For example, KPQHSTSC5 is the module collecting history for OMEGAMON for CICS.

**System action**

None.

**User response**

No action is required.

**KPQH024W: *module\_name*: MIGRATION COMPLETED WITH ERRORS****Explanation**

An attempt was made by the application identified in module *module\_name* to migrate from PDS V1 to PDS V2 but did not complete successfully. The last two characters of the module name are the code of the component. For example, KPQHSTSC5 is the module collecting history for OMEGAMON for CICS.

**System action**

Recording to the persistent data store continues but some PDS V1 data may be missing.

**User response**

Contact IBM® Software Support.

**KPQH025W: KPQHSMGR: PERFORMING UNEXPECTED OUT-OF-SPACE DATASET SWITCH FOR *application*****Explanation**

A space-based switch had to be performed on a time-based data set (ECR=YES).

**System action**

Recording continues using the next recording data set, but the capacity of the data store is decreased, resulting in fewer records being stored (less than 24 hours of data per data set) until the issue is resolved. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

**User response**

Check if there is enough storage for the data sets to extend on your system.

**KPQH026W: *module\_name*: INCOMPLETE HISTORICAL DATA MAY HAVE BEEN WRITTEN, WRITE RC = *return\_code*****Explanation**

An attempt to write historical data failed for the application identified in module *module\_name*.

**System action**

Only partial data may have been written.

**User response**

Check previous KPQ error or warning messages in the RKLVLLOG, and check if any storage issues are present on your system. If you cannot address the problem, contact IBM® Software Support.

**KPQH027I: KPQHSMGR: *application* PARAMETER *parameter\_name* WITH VALUE *value* HAS BEEN FOUND****Explanation**

This informational message indicates that the PDS V2 parameter with name *parameter\_name* and value *value* has been found for the identified *application*. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

**System action**

None.

**User response**

No action is required.

**KPQH028W: KPQHSMGR: *application* PARAMETER ERROR, *details*****Explanation**

An error has been detected while processing a PDS V2 parameter for the identified *application*. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS). The *details* text indicates the cause.

**System action**

The parameter is ignored.

**User response**

Correct the parameter value.

**KPQH029I: KPQHSMGR: *application* PARAMETERS:  
*parameters\_and\_values*****Explanation**

This informational message provides a list of the PDS V2 parameters and settings for the identified *application*. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

**System action**

None.

**User response**

No action is required.

**KPQH030I: KPQHSMGR: LEGACY CONFIGURATION HAS BEEN DETECTED****Explanation**

This informational message indicates that PDS V2 has not found the parameter members supplied by the PARMGEN PTF *ptf\_number* and the legacy parameter source (PDS V1) will be used.

**System action**

None.

**User response**

No action is required.

**KPQH031I: KPQHSMGR: PDS V2 IS DISABLED FOR *application*****Explanation**

This informational message indicates that PDS V2 has been disabled for the identified *application*. This situation can happen due to user action in the configuration tool (PARMGEN or Configuration Manager) or automatically if the identified *application* is not supported by PDS V2. The *application* is the code of the component (for example, KC5 for OMEGAMON for CICS).

**System action**

PDS V1 is used for the application.

**User response**

No action is required.

**KPQH032W: KPQHSMGR: BROKER MODULE *name* NOT LOADED, RC = *rc*, RSN = *rsn***

**Explanation**

The broker API module *name* could not be loaded. The return code (*rc*) and reason (*rsn*) values have the abend and reason codes from the **LOAD** system call.

**System action**

No data is sent to the broker.

**User response**

Review the JCL for the job that runs the OMEGAMON historical collection task. Check that the broker module is in the STEPLIB data sets specified by the JCL. If you cannot resolve the issue, contact IBM® Software Support.

**KPQH033W: KPQSPCMD: COMMAND IGNORED, *reason***

**Explanation**

A **MODIFY** command has been entered for the job that runs the OMEGAMON historical collection task; for example, the monitoring server job. The **MODIFY** command has been ignored. The *reason* specifies the cause of the error.

**System action**

The command is ignored.

**User response**

Enter a correct **MODIFY** command.

**KPQH034I: KPQSPCMD: COMMAND ACCEPTED, *details***

**Explanation**

A **MODIFY** command has been entered for the job that runs the OMEGAMON historical collection task; for example, the monitoring server job. The **MODIFY** command has been accepted. The *details* contain additional command response information.

**System action**

The command is accepted.

**User response**

None required.

**KPQH037I: TABLE *table* HAS BEEN CONNECTED TO PDS**

**Explanation**

The OMEGAMON® historical collection task has successfully written a record of this table to the persistent data store (PDS).

This message is written only if the table is explicitly specified in the RKANPARU (KAYOPEN) configuration member. If the member does not exist, or the member exists but does not explicitly specify the table, then the default behavior is to write records from the table to PDS without reporting this message.

This message is written only in the following situations:

- For the first instance of a record of this table since the task's configuration was loaded: either when the task's job started or when the configuration was reloaded by a **MODIFY** command while the job was running.
- After the issue that caused message [KPQH039W](#) has been fixed.

**Tip:** The frequency of incoming data is determined by the collection interval of the collection for this table. A long collection interval can mean a long delay before this message occurs.

#### System action

None.

#### User response

None required.

### KPQH038I: TABLE *table* HAS BEEN CONNECTED TO BROKER

#### Explanation

The OMEGAMON® historical collection task has successfully sent a record from this table to OMEGAMON® Data Broker.

This message is written only if the table is explicitly specified in the RKANPARU (KAYOPEN) configuration member. If the member does not exist, or the member exists but does not explicitly specify the table, then the default behavior is to write records from the table to PDS without reporting this message.

This message is written only in the following situations:

- For the first instance of a record of this table since the task's configuration was loaded: either when the task's job started or when the configuration was reloaded by a **MODIFY** command while the job was running.
- After the issue that caused message [KPQH040W](#) has been fixed.

**Tip:** The frequency of incoming data is determined by the collection interval of the collection for this table. A long collection interval can mean a long delay before this message occurs.

#### System action

None.

#### User response

None required.

### KPQH039W: PDS CONNECTION FOR TABLE *table* FAILED, *reason*

#### Explanation

The OMEGAMON® historical collection task failed to write records of this table to the persistent data store (PDS). The *reason* provides details of the cause.

This message is written only if the table is explicitly specified in the RKANPARU (KAYOPEN) configuration member. If the member does not exist, or the member exists but does not explicitly specify the table, then the default behavior is to write records from the table to PDS without reporting this message.

#### System action

Until this issue is resolved, no records of this table are written to the PDS.

#### User response

Review the provided details and take appropriate action. If you cannot resolve the issue, contact IBM® Software Support.

### KPQH040W: BROKER CONNECTION FOR TABLE *table* FAILED, *reason*

#### Explanation

The OMEGAMON® historical collection task failed to send records of this table to OMEGAMON® Data Broker. The *reason* provides details of the cause.

This message is written only if the table is explicitly specified in the RKANPARU (KAYOPEN) configuration member. If the member does not exist, or the member exists but does not explicitly specify the table, then the default behavior is to write records from the table to PDS without reporting this message.

### System action

Until this issue is resolved, no records of this table are sent to OMEGAMON® Data Broker.

### User response

Review the provided details and take appropriate action.  
*reason* values and suggested actions:

#### STORE NOT FOUND

Ensure that the OMEGAMON store is defined in the OMEGAMON® Data Broker configuration member.

#### BROKER HAS NO CONNECTION TO SINK

Ensure that OMEGAMON® Data Broker is connected to OMEGAMON® Data Connect.

#### BROKER OFFLINE

Ensure that the OMEGAMON® Data Broker name is correct in the collection configuration member.  
Ensure that the Zowe™ cross-memory server that hosts OMEGAMON® Data Broker is running.

#### RC = *rc*, RSN = *rsn*

Contact IBM® Software Support.

If you cannot resolve the issue, contact IBM® Software Support.

## KPQH041E: *task*: CONFIG NOT LOADED, HISTORY/OPEN DATA PROCESSING IS STOPPED

### Explanation

There are issues with the OMEGAMON® historical collection task configuration member, *rte\_hilev.rte\_name*.RKANPARU (KAYOPEN), for the application identified by *task*. The *task* is the name of the task in which the error originated, in the format KPQHST*pp*, where *pp* is the product code.

### System action

Until the issue is resolved, processing of records from the application (*pp*) stops. No records of tables from this application are sent to OMEGAMON® Data Broker or written to PDS.

### User response

Review the issues reported in previous error messages. If you cannot resolve these issues, contact IBM® Software Support.

## KPQH042W: *task*: CONFIG NOT LOADED, EXISTING CONFIG WILL BE USED

### Explanation

A **MODIFY** command has been entered for the job that runs the OMEGAMON historical collection task, to reload the configuration. However, the new configuration is ignored. Processing of historical data and/or streaming continues the same as before the **RELOAD\_CONFIG** command was issued; the new parameters are ignored. The *task* is the name of the task in which the error originated, in the format KPQHST*pp*, where *pp* is the product code.

### System action

The new configuration is ignored. Processing of historical data and streaming continues the same as before for the application identified by *task* until the issue has been resolved.

### User response

Address the issues reported in previous error messages. If you cannot resolve this issue, contact IBM® Software Support.

## **KPQH043I: KPQHSMGR: DATASTORE INFORMATION: *details***

### **Explanation**

In response to the QUERY DATASTORE command, this informational message provides details about the data sets allocated to the data store for a particular application. Details include the data set name, the application code, the number of allocated bytes, the number of used bytes, and the status of the data set.

### **System action**

None.

### **User response**

No action is required.

## **KPQH044I: KPQSPINI: TCB=*tcb\_address*, FSA=*fsa\_address*, DSA=*dsa\_address*, RC=*return\_code***

### **Explanation**

This informational message is issued during the historical module initialization. It indicates a successful completion of one of the initialization steps and provides technical details about this step.

### **System action**

None.

### **User response**

No action is required.

## **KPQH045I: *module name*: PDS V1 IS DISABLED, PDS MIGRATION FOR APPLICATION *application-name* WILL NOT BE PERFORMED**

### **Explanation**

PDS V2 is enabled for application *application-name*. PDS V1 near-term history files exist for this application, but PDS V2 files do not exist yet. This situation normally triggers the migration process of PDS V1 files to PDS V2. However, the monitoring server or monitoring agent is configured with PDS V1 disabled, so the PDS V1 environment is not initialized, and the migration cannot be performed.

### **System action**

The PDS migration process for the application will not be performed. Empty PDS V2 application files will be created, but the application data from PDS V1 will not be migrated. History data collection for the application will begin in PDS V2. If the *application-name* in the message is KPD, Tivoli Data Warehouse (TDW) export configuration data stored in PDS V1 will be lost, which may cause a spike in CPU usage the next time history data is exported to TDW.

### **User response**

No action is required.

## **KPQM0001W: U\$USM000: FAILURE TO OBTAIN WORKAREA**

### **Explanation**

The PDS V2 Media Manager interface could not obtain storage for a work area.

### **System action**

The PDS V2 Media Manager interface signals IBM Media Manager to attempt to obtain storage.

### **User response**

If this message occurs frequently, contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQM0002W: U\$USM000: ROUTING TABLE AT MAXIMUM**

### **Explanation**

A PDS V2 Media Manager interface routing table is full.

### **System action**

OMEGAMON continues; however, some near-term history may be lost.

### **User response**

If this message occurs frequently, contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQM0003E: U\$USM000: IEAN4RT FAILURE, RETURN CODE: *retcode***

### **Explanation**

A name or token could not be established.

### **System action**

PDS V2 terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQM0004E: U\$USM000: IARST64 FAILURE, RETURN CODE: *retcode*, REASON CODE *rsn***

### **Explanation**

64-bit storage could not be obtained.

### **System action**

PDS V2 terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQM0005E: U\$USM000: STORAGE OBTAIN FAILURE FOR *n* BYTES, RETURN CODE: *retcode***

### **Explanation**

31-bit storage could not be obtained.

### **System action**

PDS V2 terminates.

### **User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVLLOG.

## **KPQM0006W: U\$USM000: FAILURE TO OBTAIN WORKAREA**

### **Explanation**

An internal work area could not be obtained.

**System action**

OMEGAMON continues; however, some near-term history may be lost.

**User response**

If this message occurs frequently, contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQM0007I: R\$RM0000: DISCONNECT SUCCESSFUL****Explanation**

IBM Media Manager was disconnected successfully.

**System action**

None.

**User response**

No action is required.

**KPQM0008E: R\$RM0000: DISCONNECT UPDATE FAILED WITH RETURN CODE: *retcode*, FEEDBACK: *feedback*****Explanation**

An attempt to disconnect IBM Media Manager during an update operation was not successful.

**System action**

PDS V2 terminates.

**User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQM0009E: R\$RM0000: DISCONNECT WITHOUT UPDATE FAILED WITH RETURN CODE: *retcode*, FEEDBACK: *feedback*****Explanation**

An attempt to disconnect IBM Media Manager during a non-update operation was not successful.

**System action**

PDS V2 terminates.

**User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

**KPQS031E: [*module\_name*] ESTAEX macro request rc = [*return\_code*]****Explanation**

The ESTEAX macro returned with a return code of [*return\_code*].

**User response**

Contact IBM® Software Support. This problem information is stored in the ITMS:Engine log, RKLVL0G.

## **KPQS216I: KPQSPDSH: RKANPARU MEMBER [*member name*] NOT FOUND**

### **Explanation**

The specified application member has not been found in RKANPARU.

### **System action**

The historical data will not be collected for the corresponding application as this application has not been installed yet.

### **User response**

No action is required.

## **KPQS217I: KPQSPDSH: PDS V2 HISTORY INITIALIZED**

### **Explanation**

The PDS V2 history has been successfully initialized.

### **System action**

None.

### **User response**

No action is required.

## **KPQS218E: INVALID Z/OS LEVEL**

### **Explanation**

An incompatible z/OS® version has been found.

### **System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

### **User response**

Use z/OS® 2.2 with APAR OA50569 or later.

## **KPQS219E: KPQSPDSH: CANNOT LOAD KPDCSVG RC = [*return\_code*] REASON CODE = [*reason\_code*]**

### **Explanation**

Persistent data store module KPDCSVG cannot be found.

### **System action**

Processing terminates.

### **User response**

Contact IBM® Software Support.

## **KPQS221E: UNABLE TO OBTAIN [*number of bytes*] BYTES OF SUBPOOL 254 STORAGE**

### **Explanation**

This message indicates that an internal error has occurred.

**System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

**KPQS222E: INPUT MODE NOT SUPPLIED, USING NORMAL HISTORY****Explanation**

This message indicates that an internal error has occurred.

**System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

**KPQS223E: INTERNAL ERROR, TABLE MISMATCH****Explanation**

This message indicates that an internal error has occurred.

**System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

**KPQS224E: METAL C LOAD FAILURE, ROUTINE: [*routine name*], RETURN CODE = [*return code value*]****Explanation**

This message indicates that an internal error has occurred.

**System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

**KPQS225E: ATTEMPT TO INTERCEPT HISTORY ROUTINE FAILED****Explanation**

This message indicates that an internal error has occurred.

**System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

## **KPQS226E: UNABLE TO OBTAIN RTE DATASET NAME**

### **Explanation**

This message indicates that an internal error has occurred.

### **System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

### **User response**

Contact IBM® Software Support.

## **KPQS227E: X\$INSSET EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during an insert setup call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS228E: X\$INSPRO EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during an insert process call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS229E: X\$INSEND EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during an insert tear down call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS230E: X\$LOCSET EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during a locate setup call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS231E: X\$LOCPRO EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during a locate process call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS232E: X\$LOCEND EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during a locate tear down call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS233E: X\$TCSFND EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during a find TCS call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS234E: X\$CMTTAB EYECATCHER MISMATCH AT [address]**

### **Explanation**

This message indicates that an internal error has occurred during a commit table call.

### **System action**

The corresponding call will be ignored. Some historical data might be missing.

### **User response**

Contact IBM® Software Support.

## **KPQS235E: UNABLE TO OBTAIN PDS VECTOR**

### **Explanation**

This message indicates that an internal error has occurred. A possible cause is an incorrect configuration or an improper manual modification of RKANPARU (KPQHINIT).

### **System action**

The module encountering the error will terminate. The historical data will be collected by using PDS V1.

**User response**

Contact IBM® Software Support.

**KPQS236E: KPQSPDSH: [PUBLIC | PRIVATE] PDS V1 *function-name* CALL HAS OCCURRED BUT PDS V1 IS DISABLED****Explanation**

A call has occurred to PDS V1 function *function-name*, but the monitoring server or monitoring agent is running with PDS V1 disabled. Most likely this happened due to a user error (such as issuing a PDS V1 command when PDS V1 is disabled) or a monitoring server or monitoring agent misconfiguration.

**System action**

Processing continues. The PDS V1 request is ignored.

**User response**

Contact IBM® Software Support. This problem information is stored in the TMS:Engine log, RKLVLOG.

**KPQS237I: KPQHINIT: PDS V2 IS RUNNING STAND-ALONE, PDS V1 IS DISABLED****Explanation**

During PDS V2 startup, the program discovered that the monitoring server or the monitoring agent is configured to run with PDS V1 disabled.

**System action**

Processing continues. The PDS V1 environment will not be initialized, and PDS V1 data sets will not be used.

**User response**

No action is required. Optionally, PDS V1 data sets can be deleted.

**KPQS238E: KPQSPDSH: UNABLE TO OBTAIN KPD TOKEN****Explanation**

An internal error has occurred.

**System action**

The module encountering the error terminates. PDS V2 is not able to collect historical data.

**User response**

Contact IBM® Software Support.

**KRAO messages**

The messages that begin with the KRAO prefix are associated with monitoring agents.

**KRAOP001: AGENT FRAMEWORK NOT INITIALIZED.****Explanation**

Agent can not be started because agent framework is not initialized yet. Could be recoverable error that can be ignored or could be fatal depending on how agent loader handles this condition.

## **KRAOP002: NULL COMMAND INVALID.**

### **Explanation**

Check if an invalid command was issued by the user.

## **KRAOP003: AGENT *module\_name* NOT INSTALLED.**

### **Explanation**

An installation failure occurred. Reinstall the agent.

## **KRAOP004: AGENT *module\_name* ALREADY STARTED.**

### **Explanation**

Only one instance of the agent can be running at a time. This is an informational message, and can be ignored.

## **KRAOP005: AGENT *module\_name* NOT ACTIVE.**

### **Explanation**

Contact IBM Software Support.

## **KRAOP006: AGENT ID INVALID *nnnn*.**

### **Explanation**

Contact IBM Software Support.

## **KRAOP007: COMMAND SCHEDULED FOR *module\_name*.**

### **Explanation**

This is an informational message. The command is scheduled to run.

## **KSC messages**

The messages that begin with the KSC prefix are associated with SMF errors reported by the auditing function when running on a z/OS-based Tivoli Enterprise Monitoring Server.

### **Message number**

#### **Message content**

#### **KSCSMFH010E**

Unable to allocate storage for SMF File Handler

#### **KSCSMFH011E**

Unable to determine current address space jobname

#### **KSCSMFH012E**

Unable to convert current address space ID

#### **KSCSMFH013E**

Unable to determine current address space ID

#### **KSCSMFH020E**

Unable to free SMF File Handler storage

#### **KSCSMFH030W**

SMF File Handler not enabled

**KSCSMFH040W**

Unable to locate SMF File Handler

**KSCSMFH041W**

No event data passed to SMF File Handler

**KSCSMFH050E**

Unable to format event message

**KSCSMFH060E**

Event message length(*len*) exceeds maximum(*max*)

**KSCSMFH070E**

Unable to determine product code

**KSCSMFH080E**

Invalid event record type (SMF 112 subtype)=*stype*

**KSCSMFH090W**

String truncation for *strg*

**KSCSMFH116E**

SMF record not written. SMF inactive or abend.

**KSCSMFH108E**

Invalid SMF record length

**KSCSMFH120W**

SMF record not written. Suppressed by installation exit

**KSCSMFH124E**

SMF record not written. Data lost by SMF

**KSCSMFH136W**

SMF record not written. Recording of record disabled

**KSCSMFH140E**

SMF record not written. SMF buffer shortage

**KSCSMFH144E**

SMF record not written. Cannot establish recovery env.

**KSCSMFH148E**

SMF record not written. SMF ASC mode error

**KSCSMFH199E**

SMF record not written. SMFEWMTM return code=*rc*

## KSD messages

The messages that begin with the KSD prefix are associated with the OMEGAVIEW® component.

### **KSDCY010E: SHORT ON STORAGE CONDITION ENCOUNTERED. OG ALERT NOT SENT FOR STATUS ITEM *item***

**Explanation**

Short-on-storage condition encountered.

**System action**

OG alert not sent.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDCY011E: 1PSIMDATA => *data*****User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDCY012E: 1PSIMPARM => *parm*****User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM001E: SDMBLDN RETURNED, RC= *return\_code*****Explanation**

Error returned from SDMBLDN request.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM002E: CREATESTATUS RULECOMPILER RETURNED, RC= *return\_code*****Explanation**

Error returned from rule compiler for a CreateStatus request.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**KSDDM003E: KSD\_NEWXATTRSSPL ERROR RC= *return\_code*****Explanation**

Error returned when requesting new attribute for item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM004E: KSD\_RECONCILEPARENTS ERROR RC= *return\_code*****Explanation**

Error encountered when reconciling parents of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support

**Message Type**

Internal Error.

**KSDDM005E: KSD\_DELXATTRSSPL ERROR RC= *return\_code*****Explanation**

Error encountered when deleting attribute of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support

**Message Type**

Internal Error.

**KSDDM006E: KSD\_NEWXATTRVBB ERROR RC= *return\_code*****Explanation**

Error encountered when adding attribute to item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM007E: KSD\_DISOWNCHILDREN ERROR RC= *return\_code***

**Explanation**

Error encountered when disconnecting children from item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM008E: KSD\_RECONCILECHILDREN ERROR RC= *return\_code***

**Explanation**

Error encountered when reconciling children of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support

**Message Type**

Internal Error.

**KSDDM009E: KSD\_DISOWNPARENTS ERROR RC= *return\_code***

**Explanation**

Error encountered when disconnecting parents from item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support

**Message Type**

Internal Error.

**KSDDM010E: KSD\_RECONCILEPARENTS ERROR RC= *return\_code***

**Explanation**

Error encountered when reconciling parents of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support

**Message Type**

Internal Error.

**KSDDM011E: KSD\_DELXATTR() ERROR RC= *return\_code*****Explanation**

Error encountered when deleting attribute of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM012E: KLE\_TABLEMODIFY ERROR RC= *return\_code* FOR STATUS ITEM *item*****Explanation**

Error encountered from TableModify request.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDDM013E: DIALOG *dialog* FAILED, RC= *return\_code*****Explanation**

Error occurred during the execution of the named dialog.

**System action**

Execution of the dialog is terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal Error.

**KSDIN001I: PRINT PARENTS OF CHILD *child*****Explanation**

These are the parents of the specified child.

**System action**

None.

**User response**

None.

**Message Type**

Information.

**KSDIN002I: CHILD *child* PARENT *parent*****Explanation**

This is the specified child and parent.

**System action**

None.

**User response**

None.

**Message Type**

Information.

**KSDRM002E: Receive failed RC = 24 Sense = 0****Explanation**

ERROR PROCESSING AN SDM FUNCTION IN DIALOG KONSDME - APPL(CTDMVSD) SESSION(VTMD) FUNCTION(SDMMLTEM) STATUS\_ITEM(SDMHNDL) RC(40)

**System action**

None.

**User response**

Review the z/OS® Communication Server SNA Messages and Codes to interpret the nature of the problem. Review the message fields that identify the Omegaview Session, and the VTAM® ApplID("APPL") to identify the VTAM® session that is experiencing problems. In general, this may be caused by any of the following:

- Incorrect OMEGAVIEW® Session parameter specification.
- VTAM® Communication disruptions (hardware or network outages).
- OMII Monitor Address Space termination.
- Incorrect VTAM® LOGMODE Table entries.

**Message Type**

Internal error.

**KSDRM003E: Send failed RC 4 Sense 0****Explanation**

ERROR PROCESSING AN SDM FUNCTION IN DIALOG KONSDME - APPL(CTDMVSD) SESSION(VTMD) FUNCTION(SDMMLTEM) STATUS\_ITEM(SDMHNDL) RC(40)

**System action**

None.

**User response**

Review the z/OS® Communication Server SNA Messages and Codes to interpret the nature of the problem. Review the message fields that identify the Omegaview Session, and the VTAM® AppID("APPL") to identify the VTAM® session that is experiencing problems. In general, this may be caused by any of the following:

- Incorrect OMEGAVIEW® Session parameter specification.
- VTAM® Communication disruptions (hardware or network outages).
- OMII Monitor Address Space termination.
- Incorrect VTAM® LOGMODE Table entries.

**Message Type**

Internal error.

**KSDVS001I: VARNAME *variable* VARVALUE *value*****Explanation**

This is the name of the variable and its value.

**System action**

None.

**User response**

None.

**Message Type**

Internal error.

**KSDVS002E: ALLOC PCT-STR FAILED****Explanation**

Allocation of the PCT string failed.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support

**Message Type**

Internal error.

**KSDVS003E: ALLOC COLUPDAT FAILED****Explanation**

Allocation of the column update failed.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDVS004E: ALLOC VARVALUE FAILED****Explanation**

Allocation of the variable value failed.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDVS005E: REFRESHDM STATUS *state* VARNAME *name* VARVALUE *value*****Explanation**

These are the refresh data manager values.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDVS005I: PRINT VALUES FROM VBB****Explanation**

These are the values from the VBB.

**System action**

None.

**User response**

None.

**Message Type**

Information.

**KSDXA001I: PRINT XATTR OBJECT****Explanation**

These are the attributes of the object.

**System action**

None.

**User response**

None.

**Message Type**

Information.

**KSDXA002E: KSD\_NEWXATTRVBB ERROR RC=*return\_code*****Explanation**

Error encountered when adding attribute of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA003E: KSD\_DISOWNCHILDREN RC= *return\_code*****Explanation**

Error encountered when disconnecting children from item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA004E: KSD\_RECONCILECHILDREN RC= *return\_code*****Explanation**

Error encountered when reconciling children of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA005E: KSD\_DISOWNPARENTS RC= *return\_code*****Explanation**

Error encountered when disconnecting parents of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA006E: KSD\_RECONCILEPARENTS RC= *return\_code*****Explanation**

Error encountered when reconciling parents of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA007E: KSD\_DELXATTR() ERROR RC= *return\_code*****Explanation**

Error encountering when deleting attribute of item.

**System action**

Request terminated.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA008E: INVALID RULE COLUMN NAME, RC= *return\_code*****Explanation**

Problem when specifying rule of specific roll-up item.

**System action**

Item not matched.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**KSDXA009E: ERROR IN RULE TEXT, RC= *return\_code*****Explanation**

Problem when specifying rule of specific roll-up item.

**System action**

Item not matched.

**User response**

Contact IBM® Software Support.

**Message Type**

Internal error.

**LSC messages**

There is only one LCS message and it is associated with Classic OMEGAMON®.

**LSCXn: (message text varies)****Explanation**

SAS/C generates messages that have LSCX prefixes.

**System action**

None.

**User response**

Contact IBM Software Support.

**OB messages**

The messages that begin with the OB prefix are associated with the OMEGAMON® Base component.

**OB0101: INVALID FIELD DETECTED, INPUT IGNORED****Explanation**

The cursor was placed on a field which the command processor determined to be invalid.

**System action**

Processing continues as determined by the particular command.

**User response**

Make corrections as determined by the particular command.

**OB0104: .MFY ONLY WORKS IN DEDICATED MODE****Explanation**

The OMEGAMON session is not in the proper mode. The .MFY command only works in dedicated mode.

**System action**

The command terminates.

**User response**

Restart OMEGAMON in dedicated mode, or do not attempt to execute this command.

**OB0106: *keyword* KEYWORD VALUE *cc* INVALID****Explanation**

The color or highlighting value entered for the specified keyword is not valid. When Display=BASIC, valid keyword values are HI and LO. When Display=COLOR, valid keyword values are any of the seven color names available on terminals that support the extended data stream.

**System action**

Command execution terminates.

**User response**

Correct the appropriate keyword value and retry.

**OB0107: MAJOR NOT FOUND****Explanation**

The major command name supplied during a help request was not found.

**System action**

Command execution terminates.

**User response**

Correct the major command name and re-enter it.

**OB0108: COMMAND IS NOT A MINOR OF THIS MAJOR****Explanation**

The major command name supplied during a help request exists, but the minor supplied is not valid for this major.

**System action**

Command execution terminates.

**User response**

Correct the minor command name and re-enter.

**OB0109: MAXIMUM MESSAGE LENGTH IS 60 CHARACTERS****Explanation**

An attempt has been made to specify an XTXT message greater than 60 characters.

**System action**

The command terminates.

**User response**

Respecify the message using less than 60 characters.

## **OB0110: INVALID .VAR OPTION - cccccc**

### **Explanation**

The option cccccc is unknown to the .VAR command.

### **System action**

Command execution terminates.

### **User response**

Correct the option and retry the command.

## **OB0111: INVALID VARIABLE NAME - cccccc**

### **Explanation**

The name cccccc contains invalid characters.

### **System action**

Command execution terminates.

### **User response**

Correct the name and retry the command.

## **OB0112: VARIABLE NAME TOO LONG**

### **Explanation**

Name exceeds 8 characters.

### **System action**

Command execution terminates.

### **User response**

Correct the name and retry the command.

## **OB0113: STRING TOO LONG**

### **Explanation**

The length of the replacement string set with .VAR can be no larger than 64 characters.

### **System action**

The string is not installed.

### **User response**

Supply a shorter string and retry the command.

## **OB0114: VARIABLE cccccc HAS BEEN SET**

### **Explanation**

The requested variable cccccc has been updated in the table.

### **System action**

The command executes successfully.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0115: VARIABLE NAME NOT FOUND IN TABLE****Explanation**

The requested name could not be located.

**System action**

The command terminates.

**User response**

Correct the command and retry. To see a list of the values in the table, issue the .VAR command.

**OB0116: VARIABLE TABLE IS EMPTY****Explanation**

The user attempted to list variables with the .VAR command, however there were no variables in the table.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0117: NO ENTRIES FOUND ON STACK****Explanation**

The .DSE command determined that no stack entries exist.

**System action**

The .DSE command terminates normally and waits for the next user request.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0119: VARIABLE NAME IS RESERVED, CANNOT BE SET****Explanation**

The variable name on a .VAR SET operation is reserved. Either the full name as entered is reserved, or the format is reserved. For example, the exception analysis format (ZX....) is reserved.

**System action**

OMEGAMON suppresses the .VAR SET function.

**User response**

Change the variable name to a valid name and re-enter the command.

## **OB0120: CANNOT LOCATE PREVIOUS MAJOR COMMAND**

### **Explanation**

OMEGAMON could not locate the major command associated with this minor command.

### **System action**

OMEGAMON does not execute the minor command.

### **User response**

Enter the minor command after a major command and retry.

## **OB0121: NO WAIT INDICATED**

### **Explanation**

The .WAT command requires a numeric argument. No numeric argument was supplied.

### **System action**

Command execution terminates.

### **User response**

Re-enter the command, specifying a wait value.

## **OB0122: *nn* SECOND WAIT COMPLETED**

### **Explanation**

OMEGAMON completed the requested wait.

### **System action**

Command execution completes normally.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0123: NO MINOR COMMAND NAME GIVEN**

### **Explanation**

This command expects you to supply a minor command name as an argument.

### **System action**

The command terminates.

### **User response**

Enter a valid minor name.

## **OB0124: MINOR COMMAND NAME TOO LONG**

### **Explanation**

The user entered a minor command name longer than 4 characters.

**System action**

The command terminates.

**User response**

Correct the entry and retry.

**OB0125: NO MAJOR COMMAND HAS A MINOR WITH THIS NAME****Explanation**

The user entered an invalid minor command name.

**System action**

The command terminates.

**User response**

Enter a different minor command.

**OB0126: STATUS MODE *ccc*****Explanation**

Status mode has been turned ON or OFF.

**System action**

The command executes.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0127: INVALID LENGTH FOR KEYWORD - *cccccccc*****Explanation**

A keyword that is too long has been entered. The value *cccccccc* is the first 8 characters of the keyword specified with the invalid length. The maximum length for a conditional keyword is 8; the maximum length for a relational keyword is 2 characters.

**System action**

The screen is not fetched.

**User response**

Correct the keyword and re-enter it.

**OB0128: INVALID RELATIONAL KEYWORD****Explanation**

An invalid relational keyword has been entered. Valid relational keywords are EQ, LT, LE, NE, GT, GE, and the equal (=) sign.

**System action**

The screen is not fetched.

**User response**

Correct the keyword and re-enter it.

**OB0129: INVALID CONDITIONAL SYNTAX****Explanation**

An invalid conditional syntax has been entered. The valid syntax is:

```
condition relation condition
```

**System action**

The screen is not fetched.

**User response**

Correct the keyword and re-enter.

**OB0130: DEFINITION MODE {ENABLED|HELD|DISABLED}****Explanation**

OMEGAMON set definition mode to ENABLED, HELD, or DISABLED.

**System action**

The command completes processing.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0131: DELETE FAILED - ccccccc NOT FOUND IN PROCSAVE****Explanation**

Member ccccccc, the member to delete, was not found.

**System action**

The command terminates.

**User response**

Correct the name and retry the command. You can issue the SCRN command to display a list of screens in RKOMPCSV. You cannot use DELT to delete screens from the KOBICCSOMPROC data set.

**OB0132: DIRECTORY UPDATE FAILED, CODE = xx****Explanation**

An attempt to modify the RKOMPCSV directory failed; the return code (from STOW) is xx. The explanation of the return code is found in the IBM® *MVS™ Data Administration Macro Instruction Reference* manual (STOW macro).

**System action**

The command terminates.

**User response**

Examine the return code and take appropriate action.

### **OB0133: ENTER MEMBER NAME TO BE DELETED**

#### **Explanation**

The DELT command requires a member name. No member name was found.

#### **System action**

The command terminates.

#### **User response**

Enter a member name and retry the command.

### **OB0134: MEMBER NAME LENGTH GREATER THAN 8 BYTES**

#### **Explanation**

The member name exceeds the maximum length of 8 bytes.

#### **System action**

The command terminates.

#### **User response**

Correct the member name and retry the command.

### **OB0135: PROCSAVE MEMBERNAME *ccccccc* CHANGED TO *aaaaaaaa***

#### **Explanation**

The requested name change was made.

#### **System action**

The command terminates normally.

#### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **OB0136: PROCSAVE MEMBERNAME *ccccccc* DELETED**

#### **Explanation**

The named member was deleted.

#### **System action**

The command completes.

#### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **OB0137: RENAME FAILED - *ccccccc* ALREADY EXISTS IN PROCSAVE**

#### **Explanation**

The screen space name already exists in the RKOMPCSV data set.

**System action**

The rename process terminates.

**User response**

Either delete or rename the member in RKOMPCSV, or specify another name and retry.

**OB0138: RENAME FAILED - ccccccc NOT FOUND IN PROCSAVE****Explanation**

The member to be renamed is not in the RKOMPCSV data set.

**System action**

OMEGAMON terminates the command.

**User response**

You can issue the SCRN command to list screens. Correct the name and retry the command.

**OB0139: RENAME FAILED - PROCSAVE DIRECTORY FULL****Explanation**

An attempt to update the directory failed.

**System action**

OMEGAMON terminates the command.

**User response**

Increase the size of the directory or delete members, then retry the command.

**OB0140: DIR ABORT NOT ALLOWED FROM DIRECTOR SESSION****Explanation**

The ABORT function can only be performed from a collector.

**System action**

OMEGAMON terminates the command.

**User response**

If you want to abort the collector, enter the command in the collector segment and retry.

**OB0141: NO SYSTEM ID SPECIFIED. NO LINES TRANSFERRED.****Explanation**

The /GIVE command requires a target collector.

**System action**

OMEGAMON terminates the command.

**User response**

Add the required collector ID and retry.

## **OB0142: SAME SESSION SPECIFIED. NO LINES TRANSFERRED**

### **Explanation**

The target and source for /GIVE are the same.

### **System action**

OMEGAMON terminates the command.

### **User response**

Specify the correct collector ID and retry.

## **OB0143: SESSION NOT FOUND. NO LINES TRANSFERRED**

### **Explanation**

The target ID is not an active session.

### **System action**

OMEGAMON terminates the command.

### **User response**

Specify the correct collector ID and retry.

## **OB0144: PROCSAVE DATA SET CONCATENATED, UPDATE REQUESTS IGNORED**

### **Explanation**

The RKOMPCSV data set cannot be concatenated. Use KOBICSPROC to concatenate data sets for updating screen spaces.

### **System action**

The command terminates.

### **User response**

Correct the starting PROC or JCL, and restart OMEGAMON.

## **OB0145: ENTER FROM AND TO MEMBER NAMES FOR RENAME REQUEST**

### **Explanation**

The user did not specify the old and new names required for the RENM command.

### **System action**

OMEGAMON terminates the command.

### **User response**

Supply the required parameters and retry the command.

## **OB0146: {1st|2nd} MEMBER NAME IS INVALID**

### **Explanation**

The indicated name (from or to) is invalid for OMEGAMON.

**System action**

OMEGAMON terminates the command.

**User response**

Correct the indicated name and retry the command.

**OB0147: SCREEN SPACE NAME MISSING****Explanation**

No screen space name was supplied, or an undefined variable was used. This message usually occurs with the .SGO command.

**System action**

OMEGAMON terminates the command.

**User response**

Enter a valid screen space name or variable and retry the command.

**OB0150: DUPLICATE NAME****Explanation**

The command synonym already exists.

**System action**

OMEGAMON® cancels the request.

**User response**

Specify a unique name and retry.

**OB0151: LOG RESET REQUIRED. USE .LOGOUT****Explanation**

Issue the .LOGOUT command to activate the changes made to the log file.

**System action**

The command continues.

**User response**

Reset the LOG as indicated.

**OB0152: SYNONYM NAME NOT SPECIFIED****Explanation**

A name is required for this function.

**System action**

OMEGAMON® ignores the request.

**User response**

Reissue the command and specify a synonym name.

## **OB0153: SYNONYM VALUE NOT SPECIFIED**

### **Explanation**

You must supply an OMEGAMON® command name for the synonym to represent.

### **System action**

OMEGAMON® terminates the request.

### **User response**

Supply a value for the synonym.

## **OB0154: UNKNOWN REQUEST**

### **Explanation**

An invalid function was specified.

### **System action**

OMEGAMON® terminates the request.

### **User response**

Specify a valid function (for example, ADD, DELETE).

## **OB0155: THIS COMMAND WORKS IN TSO MODE ONLY**

### **Explanation**

The command is reserved for use in the TSO environment.

### **System action**

OMEGAMON terminates the command.

### **User response**

Execute this command only in a TSO environment.

## **OB0156: VALID ONLY IN DIRECTOR OR COLLECTOR MODE**

### **Explanation**

The .DIR command allows execution of director or collector commands from within a screen space. It only works in director or collector mode.

### **System action**

The command does not execute.

### **User response**

Execute this command only in a cross memory or cross system environment.

## **OB0160: .FGO LOOP DETECT HAS BEEN RESET**

### **Explanation**

OMEGAMON processed the RESET=YES parameter of the .FGO command which reset the loop detect function.

**System action**

OMEGAMON execution continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0161: SCREEN SPACE FETCH {DELAYED|PENDING}****Explanation**

The screen space processor suspends processing (delayed) until the count in the label field reaches 0. The screen space is scheduled for fetch (pending).

**System action**

OMEGAMON execution continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0162: SCREEN SPACE NOT FETCHED****Explanation**

The screen space was not fetched because the specified condition was not met.

**System action**

OMEGAMON execution continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0163: NOT A VALID KEYWORD****Explanation**

Conditional screen space fetch processing detected a keyword not contained in its tables.

**System action**

The command terminates.

**User response**

Correct the keyword and retry the command.

**OB0164: .FGO LOOP DETECT, NO FAST GO****Explanation**

There are too many .FGOs in a row (64) without an intervening display. .FGO assumes that OMEGAMON is in a loop.

**System action**

OMEGAMON disables the .FGO function and changes it to .SGO.

**User response**

Correct the screen space loop and reset the .FGO command.

**OB0165: .FGO LOOP DETECT SWITCH SET****Explanation**

OMEGAMON processed the TEST=YES parameter of the .FGO command which set the loop detect function.

**System action**

OMEGAMON execution continues. OMEGAMON continues to treat .FGO as .SGO until you reissue the .FGO command with the RESET=YES keyword.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0170: *n* OF *m* MINOR COMMANDS GENERATED FOR *cccc*****Explanation**

The user issued the .EXM immediate command with parameters. The variable *m* is the total number of minor commands associated with major command *cccc* and the variable *n* is the number of minors that .EXM displays for this request.

**System action**

Command execution continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0171: NO MINOR COMMANDS AVAILABLE****Explanation**

The user issued the .EXM immediate command with parameters. However, there are no minors associated with this major command.

**System action**

The command executes.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0172: CONDITIONAL TEST FAILED - VARIABLE NOT SET****Explanation**

The condition set with the .VAR immediate command tested not true.

**System action**

OMEGAMON does not set the variable.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0201: INVALID COMMAND OPTION SPECIFIED****Explanation**

An incorrect option was specified for the /DEF command. The valid options are ON and OFF.

**System action**

The command terminates.

**User response**

Correct the error and retry.

**OB0202: MEMBER NAME TOO LONG****Explanation**

The member name exceeds 8 characters.

**System action**

The command terminates.

**User response**

Correct the name and retry.

**OB0203: MEMBER ALREADY EXISTS, TO REPLACE, USE /REP****Explanation**

The user attempted to save a screen space with the /SAVE command, but a member with the same name already exists.

**System action**

The command terminates.

**User response**

Use the /REP command or enter a new name and retry.

**OB0204: MEMBER NOT FOUND - USE /SAVE****Explanation**

A replace was attempted but no corresponding member was found in the data set.

**System action**

The command terminates.

**User response**

Correct the name or use the /SAVE command.

## **OB0205: KOBICSPROC DD MISSING**

### **Explanation**

OMEGAMON could not find the KOBICSPROC DD statement and could not open the file.

### **System action**

The command terminates.

### **User response**

Allocate the proper file and restart OMEGAMON.

## **OB0206: PDS IS BUSY (ENQUEUE FAILED)**

### **Explanation**

An attempt to access the data set failed because it was in use by another job.

### **System action**

The command terminates.

### **User response**

Wait a few moments and retry the command.

## **OB0207: NO SPACE IN DIRECTORY**

### **Explanation**

The directory is full. There is no room to add additional members.

### **System action**

The command terminates.

### **User response**

Increase the size of the directory and restart OMEGAMON, use an existing name, or delete entries.

## **OB0208: I/O ERROR**

### **Explanation**

An I/O error has occurred. See other accompanying messages.

### **System action**

The command terminates.

### **User response**

This is a generic message. Examine the specific error messages and take appropriate action.

## **OB0209: PROGRAM ERROR, CONTACT IBM® CORP**

### **Explanation**

An internal error has occurred.

### **System action**

The command terminates.

**User response**

Contact IBM Software Support.

**OB0210: NO PFKS SAVED BECAUSE NONE MODIFIED****Explanation**

No PF keys were modified, so OMEGAMON did not save them in the KOBICSPROC file.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0211: /PWD SUPPRESSED BY SECURITY****Explanation**

The user security verification routine has permanently assigned a security level. This command is therefore disabled.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0212: LOGGED****Explanation**

The screen space was logged to the report data set.

**System action**

The command continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0213: REPORT FILE NOT AVAILABLE****Explanation**

The allocation of a report file has failed.

**System action**

The command terminates.

**User response**

Check the minors of the OUP major command: DDNM, DEST, DSTU, and FORM.

## **OB0214: INVALID ARGUMENT**

### **Explanation**

An operand was found which was not valid for the specified command.

### **System action**

The command terminates.

### **User response**

See the help entry for the specified command to determine the correct operands. Correct the operand and retry.

## **OB0215: VTAM® MINIMUM WAIT IS 5 SECONDS**

### **Explanation**

An attempt was made to set the automatic update interval at less than 5 seconds in VTAM® auto update mode.

### **System action**

The request is denied. An interval of less than 5 seconds is invalid in this mode.

### **User response**

Set a valid time and retry.

## **OB0219: COLLECTOR ATTACHED**

### **Explanation**

The requested collector is attached to this director.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0220: MEMBER NAME IS INVALID**

### **Explanation**

The name is specified incorrectly; it must begin with an alphanational character.

### **System action**

The command terminates.

### **User response**

Correct the name and retry.

## **OB0221: RKOMPCSV DD STATEMENT MISSING**

### **Explanation**

A DD statement that allocates a user PROCFILE library was not present in the JCL. Therefore, the screen space cannot be saved or replaced.

**System action**

OMEGAMON does not make the screen space available to the user.

**User response**

Supply a DD statement that points to a PROCFILE library.

**OB0222: ARGUMENT NOT ALLOWED ON /RETURN****Explanation**

The /RETURN command (alias /R) does not allow an argument. /R is often mistaken as an alias for /REP, which does allow an argument.

**System action**

OMEGAMON ignores the command.

**User response**

Correct the command and retry.

**OB0223: INVALID STACK ENTRY NUMBER****Explanation**

OMEGAMON attempted to recall an invalid stack entry. A valid stack entry number is greater than 0 but less than the number of entries in the stack.

**System action**

OMEGAMON ignores the command.

**User response**

Correct the stack entry number. Use the .DSE command to display the entries on the stack.

**OB0224: REQUIRED MEMORY FOR ccc NOT AVAILABLE****Explanation**

OMEGAMON is unable to allocate storage for the stack work area, where ccc is either SIA or SIB.

**System action**

The /STK command terminates normally and waits for the next user request.

**User response**

Increase the region size.

**OB0225: ccccccc STACKED****Explanation**

The /STK command successfully placed screen space ccccccc on the stack. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. Enter the next command.

**OB0226: ccccccc RECALLED****Explanation**

The /STK command successfully retrieved screen space ccccccc from the stack. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. Enter the next command.

**OB0227: STACK ENTRY nnnn DELETED****Explanation**

The user successfully deleted stacked screen entry nnnn from the stack. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. Enter the next command.

**OB0228: STACK EMPTIED****Explanation**

The user cleared all stack entries. OMEGAMON freed all GETMAINED storage for the stack. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. Enter the next command.

**OB0229: INVALID KEYWORD ccccccc****Explanation**

The user entered an invalid keyword ccccccc. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

Correct the keyword and retry.

## **OB0230: INVALID CURSOR LOCATION**

### **Explanation**

The cursor must not be in row 0 or in the first or last column of a row.

### **System action**

The command terminates.

### **User response**

Place the cursor in the proper position and retry.

## **OB0231: UNABLE TO LOCATE GENERATING COMMAND**

### **Explanation**

The backscan for a nonblank in column 2 failed. The scanner backed into the INFO-line. This most likely occurred if there were only comments on the screen.

### **System action**

The command terminates.

### **User response**

Correct the screen and retry.

## **OB0232: INVALID COMMAND NAME FOUND - cccc**

### **Explanation**

The command name cccc is not a valid 3 or 4 alphanumeric character name.

### **System action**

The command terminates.

### **User response**

Correct the command name and retry.

## **OB0233: INCORRECT OPTIONAL PARAMETER - cccccccc**

### **Explanation**

The optional parameter for the /ZOOM INFO-line command is invalid. It is not 4 characters long, or it contains invalid characters.

### **System action**

The command terminates.

### **User response**

Correct the parameter and retry.

## **OB0234: THERE ARE NO PFK ASSIGNMENTS AT THIS TIME**

### **Explanation**

The user has not issued any .PFK immediate commands to assign screen spaces or INFO-line commands to PF keys.

**System action**

OMEGAMON waits for the next user request.

**User response**

Use the .PFK immediate command to assign screen spaces or INFO-line commands to PF keys.

**OB0235: PFK *nn* NOT CURRENTLY ASSIGNED****Explanation**

The user pressed PF key *nn* to execute a screen space or an INFO-line command, but a screen space or INFO-line command is not assigned to PF key *nn*. This message appears on the INFO-line.

**System action**

OMEGAMON waits for the next user request.

**User response**

Use the .PFK immediate command to assign a screen space or an INFO-line command to PF key *nn*, or try another PF key.

**OB0236: RECALL DENIED - AT *cccccc* OF STACK****Explanation**

The user entered a /STK U or /STK D command and the stack entry pointer is currently at the top or bottom of the stack. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

Enter the next command.

**OB0237: MAXIMUM STACK ENTRIES****Explanation**

There is currently a maximum of 999 stacked screens; the user cannot save another screen. This message appears on the INFO-line.

**System action**

The /STK command terminates and waits for the next user request.

**User response**

Keep the number of stacked screens under 999.

**OB0238: ERROR IN \$SQZ****Explanation**

There is an error in the \$SQZ routine.

**System action**

The /STK command terminates.

**User response**

Contact IBM Software Support.

**OB0239: EXTERNAL SECURITY ROUTINE CANNOT BE FOUND****Explanation**

An attempt has been made to enter a new user ID via the /PWD command. However, the user's external security routine cannot be located.

**System action**

The command is terminated.

**User response**

Contact your security administrator to verify that an external security routine has been properly installed.

**OB0240: INVALID LENGTH FOR USERID****Explanation**

An attempt has been made to enter a new user ID via the /PWD command that is more than 8 characters.

**System action**

The command is terminated.

**User response**

Correct the user ID and retry.

**OB0241: RELOGON NOT ALLOWED IN TSO OR SPF MODE****Explanation**

An attempt has been made to enter a new user ID via the /PWD command while in TSO or ISPF mode. The relogon function is not allowed in these modes.

**System action**

The command is terminated.

**User response**

Log off from TSO and log on with the new user ID and password.

**OB0242: RELOGON REQUEST DENIED - NO PASSWORD****Explanation**

An attempt was made to relogon via the /PWD command, but no password was entered.

**System action**

The command is terminated.

**User response**

To relogon, re-execute the command and enter a password. If you want to reset the security level, enter /PWD without a user ID.

## OB0243: RELOGON SUCCESSFUL

### Explanation

Relogon via the /PWD command was successful. This is the default message.

### System action

The command executes.

### User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. If you have customized your own message and it failed to display in place of the default message, verify the following information:

- The message has no more than 60 characters.
- U#CHMSGL contains the message's length.
- U#CHMSG contains the message.
- U#CHRESP indicates that a message is pending (U@CHMSHO).

## OB0244: RELOGON REQUEST DENIED

### Explanation

Relogon via the /PWD command was not successful. This is the default message. The user's security exit did not return a message and message length, or returned an invalid message length. Therefore, OMEGAMON issued this default message.

### System action

The command terminates.

### User response

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations. If you have customized your own message and it failed to display in place of the default message, verify the following information:

- The message has no more than 60 characters.
- U#CHMSGL contains the message's length.
- U#CHMSG contains the message.
- U#CHRESP indicates that a message is pending (U@CHMSHO).

## OB0245: INVALID RETURN CODE *nn* FROM EXTERNAL SECURITY EXIT

### Explanation

An invalid return code *nn* was passed from the external security exit.

### System action

OMEGAMON terminated the command and disallowed execution of EXTERNAL=YES commands.

### User response

Correct the external security exit to issue only these valid return codes: 0, 4, 8, and 12.

## **OB0246: /AUPON NOT ALLOWED IN TSO OR SPF MODE**

### **Explanation**

Automatic update is not allowed under the VTM1 interface.

### **System action**

OMEGAMON terminated the command.

### **User response**

If you want to update automatically, use VTAM® or dedicated mode.

## **OB0247: RELOGON NOT ALLOWED UNDER OLD EXIT**

### **Explanation**

The relogon feature is not available with this version of the user exit.

### **System action**

OMEGAMON terminated the command.

### **User response**

Upgrade the user exit to the current version.

## **OB0248: INTERVAL NOT EFFECTIVE IN *ccc* MODE**

### **Explanation**

The interval that was set cannot take effect in the mode in which the user is operating, because the current mode does not support automatic updating.

### **System action**

The interval value set is retained. If the value is saved in a user profile, it may be used in dedicated or VTAM® mode.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0249: EFFECTIVE INTERVAL IN *ccc* MODE IS *nn.n* SECONDS**

### **Explanation**

The interval that was set cannot take effect in the mode in which the user is operating. The current mode has a minimum interval of *nn.n* seconds.

### **System action**

The interval value set is retained, however the minimum of *nn.n* seconds becomes the effective interval in the current mode of operation. If the value is saved in a user profile, it may be effective in other modes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0308: INVALID KEYWORD, EXCESSIVE LENGTH - cccccccccccc**

**Explanation**

The character string is longer than OMEGAMON allows (maximum 12 characters).

**System action**

OMEGAMON bypasses the string. It makes no attempt to validate the string against the internal tables.

**User response**

Correct the parameter and retry.

**OB0310: PARAMETER *keyword value* DATA IS INVALID**

**Explanation**

The value associated with the keyword parameter is incorrect.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0311: PARAMETER *keyword value* DATA IS NOT UNIQUE**

**Explanation**

The value associated with the keyword parameter is incorrect. The data does not uniquely distinguish between entries.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0312: UNKNOWN KEYWORD PARAMETER - cccccccccccc**

**Explanation**

The indicated parameter is not in any of the tables associated with this command.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0315: PARAMETER ccccccccccc (*nnnnnnnnnnn*) MAX DECIMALS = *nn***

**Explanation**

The data *nnnn* associated with parameter *cccc* contains too many significant digits to the right of the decimal point.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0316: KEYWORD FORMAT ERROR - ccccccccccc****Explanation**

The parameter was specified in the wrong format. It must either be specified as a single word or as a keyword followed by an equal sign (=) and a data value.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0317: PARAMETER ccccccccccc (xxxxxxxxxxxx) MUST BE HEX DATA****Explanation**

The data xxxx associated with parameter ccccccc must contain only hex digits (0–9 and A–F).

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0318: PARAMETER ccccccccccc (aaaaaaaaaaaa) MUST BE bbbbbbbb OR dddddddd****Explanation**

The data aaaaaaaaaaaa associated with parameter ccccccccccc must be either bbbbbbbb or dddddddd. No other values are allowed.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0319: PARAMETER ccccccccccc (nnnnnnnnnn) MUST BE NUMERIC****Explanation**

The data nnnn associated with parameter ccccccc must be a numeric value. Only the digits 0–9 and a decimal point are allowed.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0320: PARAMETER *ccccccccc* (*aaaaaaaaaaaa*)****Explanation**

The data *aaaaaaaa* associated with parameter *ccccccc* is in error. This message will be followed by additional messages explaining the error.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0321: LENGTH MUST BE GE *xxxxxxx* AND LE *yyyyyyy*****Explanation**

The length of the character or hex string data must be within the bounds *xxxxxxx* and *yyyyyyy*.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0322: VALUE MUST BE GE *ccccccc* AND LE *aaaaaaaa*****Explanation**

The value of the number in message OB0320 must be within the bounds *ccccccc* and *aaaaaaaa*.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

**OB0323: EXCESSIVE DATA LENGTH, MUST BE LE 12****Explanation**

The length of the data is too long. The maximum length of any data string is 12 characters.

**System action**

OMEGAMON bypasses the parameter.

**User response**

Correct the parameter and retry.

## **OB0408: EXCEPTION NOT FOUND; CALL IBM® CORPORATION**

### **Explanation**

An exception in the KOBICUSER module could not be processed because of an error in the exception analysis tables.

### **System action**

Exception analysis initialization terminates.

### **User response**

Contact IBM Software Support.

## **OB0409: MAXIMUM BELL INTERVAL IS 99 SECONDS**

### **Explanation**

An attempt has been made to set the bell interval to more than 99 seconds.

### **System action**

The command terminates.

### **User response**

Enter a value that is less than 99 seconds.

## **OB0410: MINIMUM BELL INTERVAL IS 5 SECONDS**

### **Explanation**

An attempt has been made to set the bell interval to less than 5 seconds.

### **System action**

The command terminates.

### **User response**

Enter a value that is 5 seconds or more.

## **OB0411: \$DFNEXC MISSING - CALL IBM® CORPORATION**

### **Explanation**

An internal exception analysis table is missing from the OMEGAMON module.

### **System action**

Exception analysis initialization terminates.

### **User response**

Contact IBM Software Support.

## **OB0412: NEED *nnn*K MORE TO INITIALIZE EXCEPTION ANALYSIS**

### **Explanation**

OMEGAMON requires *nnn*K more storage to initialize exception analysis.

**System action**

The command terminates.

**User response**

Run OMEGAMON in a larger region.

**OB0418: EXCEPTION ANALYSIS NOT INITIALIZED****Explanation**

Exception analysis has not been initialized.

**System action**

None.

**User response**

Contact IBM Software Support.

**OB0419: GROUP ID IS INVALID****Explanation**

OMEGAMON does not recognize the group ID supplied as a valid group ID.

**System action**

OMEGAMON ignores the request.

**User response**

Enter a defined group ID or define the group to OMEGAMON.

**OB0420: EXCEPTION LIMIT OF 25 ENTRIES****Explanation**

A user attempted to enter more than 25 exceptions into this group. It is not possible to have more than 25 exceptions in a single user exception group.

**System action**

The command terminates.

**User response**

Create a group of 25 or less exceptions.

**OB0421: LIST KEYWORD HAS NO EXCEPTIONS****Explanation**

A user entered the keyword LIST= without any exceptions.

**System action**

The command terminates.

**User response**

Enter the desired exceptions for the group.

## **OB0422: cccc ENTRY NON EXISTENT NOT DELETED**

### **Explanation**

A user requested the deletion of an exception from a group that does not have that exception assigned.

### **System action**

The command terminates.

### **User response**

Determine the correct exception to be deleted.

## **OB0423: GROUP ID MUST BE PRESENT**

### **Explanation**

The GROUP= keyword was not entered.

### **System action**

The command terminates.

### **User response**

Enter the GROUP= keyword along with the desired group ID.

## **OB0424: DELETE PARAMETER IS INVALID**

### **Explanation**

The DELETE= keyword does not have GROUP or EXCEPTION specified.

### **System action**

The command terminates.

### **User response**

Enter the DELETE= keyword with either GROUP or EXCEPTION as the option.

## **OB0425: INVALID KEYWORD SPECIFIED FOR COMMAND**

### **Explanation**

An undefined keyword was specified for this command.

### **System action**

The command terminates.

### **User response**

Correct the keyword and retry.

## **OB0426: LAST, WORST, AND CUMULATIVE VALUES HAVE BEEN RESET**

### **Explanation**

Exception group trip statistics were reset.

### **System action**

Last, worst, and cumulative counters were set to zero.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0427: STATE OPTION IS INVALID****Explanation**

A user entered an option for an exception state other than NULL, NDSP, TEST, ON, or OFF.

**System action**

The command terminates.

**User response**

Enter a valid option.

**OB0428: GROUP CHANGED FROM *cc* TO *aa* FOR EXCEPTION *bbbb*****Explanation**

Exception *bbbb* was previously in exception group *cc* before being assigned to group *aa*.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0429: DELETE INVALID, GROUP NOT IN TABLE****Explanation**

Requested delete for exception group not processed, exception group is not in the table.

**System action**

The command terminates.

**User response**

Correct the exception group code and retry.

**OB0430: EXCEPTION GROUP *cc* DELETED****Explanation**

OMEGAMON deleted exception group *cc* from exception group table.

**System action**

The command terminates.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0431: EXCEPTION *cccc* DELETED FROM EXCEPTION GROUP *aa***

### **Explanation**

OMEGAMON deleted exception *cccc* from exception group *aa*. It is now available for assignment to another exception group.

### **System action**

The command terminates.

### **User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0432: *cccccccc* - INVALID COLOR, PLEASE RE-ENTER**

### **Explanation**

The color entered was not a valid color.

### **System action**

The command terminates.

### **User response**

Enter a valid color (red, yellow, green, blue, turquoise, pink, or white).

## **OB0433: EXCEPTION NAME *cccc* IS INVALID**

### **Explanation**

The exception name specified was not defined.

### **System action**

The command terminates.

### **User response**

Enter a defined exception name.

## **OB0434: SEQUENCE NUMBER IS INVALID**

### **Explanation**

A non-numeric sequence was entered for the exception.

### **System action**

The command terminates.

### **User response**

Enter a numeric sequence number.

## **OB0435: GROUP ID *cc* IS INVALID**

### **Explanation**

The GROUP= parameter for the XACB command was not specified or was specified incorrectly.

**System action**

The XACB command terminates.

**User response**

Enter a valid group identification code.

**OB0437: POSITION KEYWORD HAS NO ENTRY****Explanation**

The POSITION= keyword was entered with no value following it.

**System action**

The command terminates.

**User response**

Enter a correct POSITION= value.

**OB0438: POSITION *nnn* IS INVALID****Explanation**

OMEGAMON received a POSITION=*nnn* request that is greater than the number of entries in the table that was specified.

**System action**

The command terminates.

**User response**

Enter a value within the table range.

**OB0439: NAME KEYWORD PARAMETER IS INVALID****Explanation**

The exception group NAME is null.

**System action**

The command terminates.

**User response**

Enter a valid name for the exception group.

**OB0440: MORE THAN GROUP ID REQUIRED TO ADD ENTRY****Explanation**

An undefined group ID was entered with no other parameters.

**System action**

The command terminates.

**User response**

Enter the group ID, name, and list of desired exceptions to add a new entry to the table.

## **OB0441: ccccccc IS AN INVALID KEYWORD**

### **Explanation**

An undefined keyword was entered.

### **System action**

The command terminates.

### **User response**

Correct the spelling of the keyword.

## **OB0442: KEYWORDS ALL/LIST/GROUP ARE MUTUALLY EXCLUSIVE**

### **Explanation**

The XACB command uses the ALL, LIST, and GROUP keywords to select exceptions for display. Only one of these selection options may be specified at a time.

### **System action**

XACB output is suppressed.

### **User response**

Enter only one of the three keywords.

## **OB0443: VERBOSE AND TERSE ARE MUTUALLY EXCLUSIVE**

### **Explanation**

The XACB command produces either a VERBOSE or TERSE display. The presence of both keywords creates a conflict.

### **System action**

XACB output is suppressed.

### **User response**

Select either VERBOSE or TERSE.

## **OB0444: GROUP cc HAS NO EXCEPTIONS ASSIGNED TO IT**

### **Explanation**

The XACB command was used to select exception group *cc* for display. There are no exceptions currently assigned to group *cc*.

### **System action**

The command is ignored.

### **User response**

Select another exception group for display.

## **OB0445: THERE ARE NO EXCEPTIONS AVAILABLE FOR DISPLAY**

### **Explanation**

The XACB command did not find any exceptions that met the selection criteria specified. This could have happened because the LIST= parameter was specified without any exception name.

**System action**

The command is ignored.

**User response**

Enter a valid group identifier or exception name.

**OB0510: USER PROFILE *cc* ADDED TO LIBRARY****Explanation**

The user added a new profile *cc* to the profile library.

**System action**

The command executes.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0515: USER PROFILE *cc* DELETED FROM LIBRARY****Explanation**

The user deleted profile *cc* from the profile library.

**System action**

The command executes.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0520: USER PROFILE *cc* REPLACED IN LIBRARY****Explanation**

The user replaced existing profile *cc* in the profile library.

**System action**

The command executes.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0525: USER PROFILE *cc* NOT IN LIBRARY****Explanation**

The user attempted to delete profile *cc* which does not exist in the library.

**System action**

The command terminates.

**User response**

Correct the profile ID and retry.

## **OB0526: OMEGAMON WILL EXECUTE USING IBM® DEFAULTS**

### **Explanation**

This message indicates which profile defaults will execute for this session.

### **System action**

The command completes processing.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0527: OMEGAMON WILL EXECUTE USING YOUR INSTALLATION PROFILE**

### **Explanation**

This message indicates which profile defaults will execute for this session.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0530: USER PROFILE ID *cc* IS NOT VALID**

### **Explanation**

The user issued a profile command with an invalid profile identifier (suffix).

### **System action**

The command terminates.

### **User response**

Enter a valid 2-character profile identifier. Use the PPRF LIST command to list valid identifiers at your installation.

## **OB0532: USER PROFILE KEYWORD *cccccccc* IS INVALID**

### **Explanation**

The user issued a profile command with an invalid profile keyword.

### **System action**

The command terminates.

### **User response**

Enter the profile keyword SAVE or DELETE.

## **OB0535: INSTALLATION PROFILE *cc* DELETED FROM LIBRARY**

### **Explanation**

The installer deleted the installation profile from the library.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0540: INSTALLATION PROFILE ADDED TO LIBRARY****Explanation**

The installer added a new installation profile to the profile library.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0544: INSTALLATION PROFILE DELETED FROM LIBRARY****Explanation**

The installer deleted the existing installation profile from the profile library.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0545: INSTALLATION PROFILE REPLACED IN LIBRARY****Explanation**

The installer replaced the existing installation profile in the profile library.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0546: INSTALLATION PROFILE IDENTIFIER NOT ALLOWED****Explanation**

The user entered a profile identifier for the installation profile command. It does not accept an identifier.

**System action**

The command terminates.

**User response**

Either use the PPRF command for a user profile, or delete the identifier on the IPRF command for the installation profile.

**OB0547: INSTALLATION PROFILE NOT IN LIBRARY****Explanation**

The installer attempted to delete or replace a non-existent installation profile from the profile library.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0580: COMMENT ccccccccccccccccccc IS MORE THAN 18 CHARACTERS LONG****Explanation**

A comment was added with the PPRF command that is longer than the maximum allowed.

**System action**

The command terminates.

**User response**

Add a comment that is a maximum of 18 characters and retry the command.

**OB0590: PROFILE SERVICE REQUEST FAILED - {reason}****Explanation**

A user profile request failed for the specified reason.

**System action**

The request is terminated.

**User response**

The reasons that appear follow. Take the appropriate action for the reason displayed with this message.

**OB0590(cont.): ABEND X'13' OCCURRED IN cccc****Explanation**

An X'13' abend occurred when the specified routine (cccc) tried to open the profile data set.

**System action**

The request is terminated.

**User response**

Check the SYSLOG for the X'13' abend and correct the problem.

## **OB0590(cont.): INTERNAL PROFILE HEADER ERROR**

### **Explanation**

The user profile header record about to be written to the output data set has an error.

### **System action**

The request is terminated.

### **User response**

Contact IBM Software Support.

## **OB0590(cont.): INVALID DDNAME IN cccc**

### **Explanation**

An internal OMEGAMON error has occurred.

### **System action**

The request is terminated.

### **User response**

Contact IBM Software Support.

## **OB0590(cont.): INVALID SERVICE REQUEST TYPE**

### **Explanation**

An invalid parameter type was presented to the user profile facility I/O driver.

### **System action**

The request is terminated.

### **User response**

Contact IBM Software Support.

## **OB0590(cont.): IOWA NOT AVAILABLE**

### **Explanation**

The user profile I/O work area is not available.

### **System action**

The request is terminated.

### **User response**

Contact IBM Software Support.

## **OB0590(cont.): MEMBER IS EMPTY**

### **Explanation**

The requested profile member contains no records.

### **System action**

The request is terminated.

**User response**

Delete or replace the empty profile.

**OB0590(cont.): nnnnnnnn NOT FOUND****Explanation**

Member *nnnnnnnn* was not found in the profile data set.

**System action**

The request is terminated.

**User response**

Insure that the proper member name was requested. Use the PPRF LIST command to see what profiles are available and what profile data sets are allocated.

**OB0590(cont.): OPEN FAILURE IN cccc****Explanation**

An attempt to open a profile data set in routine *cccc* was not successful.

**System action**

The request is terminated.

**User response**

Insure that the profile data sets are properly defined. If you still cannot open the data set, contact IBM Software Support.

**OB0590(cont.): OUTPUT DCB OPEN FAILED****Explanation**

An attempt to open the output profile data set was not successful.

**System action**

The request is terminated.

**User response**

Make sure that the output profile data set is properly defined. Contact IBM Software Support.

**OB0590(cont.): OUTPUT FILE NOT AVAILABLE****Explanation**

A prior error occurred during user profile facility processing and the output file was flagged as unavailable to this OMEGAMON session.

**System action**

The request is terminated.

**User response**

Another OB0590 message with a different reason was issued prior to this one. Follow the procedure to correct the first error.

## **OB0590(cont.): OUTPUT TEMPORARILY UNAVAILABLE**

### **Explanation**

The output profile data set is being used by another OMEGAMON session.

### **System action**

The request is terminated.

### **User response**

Once the output profile data set is free, you can enter the command again. If the condition persists, contact IBM Software Support.

## **OB0590(cont.): ABEND X'14' OCCURRED IN cccc**

### **Explanation**

An X'14' abend occurred attempting to close the profile data set from routine cccc.

### **System action**

The request is terminated.

### **User response**

Check the SYSLOG for the X'14' abend and correct the problem.

## **OB0590(cont.): PROFILE DATA SETS NOT ALLOCATED**

### **Explanation**

The KOBICSPROF and KOBICSPROFSV data sets are not allocated.

### **System action**

The request is terminated. Profile services are not available.

### **User response**

Allocate the KOBICSPROF and KOBICSPROFSV data sets by DD statements or CLIST as appropriate for the session mode. If the problem persists, contact IBM Software Support.

## **OB0590(cont.): SEQUENCE ERROR IN cccc**

### **Explanation**

An internal error occurred during user profile facility processing in routine cccc.

### **System action**

The request is terminated.

### **User response**

Another OB0590 message with a different reason was issued prior to this one. Follow the procedure to correct the first error.

## **OB0590(cont.): SERVICE NOT AVAILABLE**

### **Explanation**

An invalid parameter was presented to the user profile facility I/O driver.

**System action**

The request is terminated.

**User response**

Contact IBM Software Support.

**OB0590(cont.): SPANNED RECORD ERROR****Explanation**

A profile being read for input was found to have an invalid value in the spanned record field.

**System action**

The request is terminated.

**User response**

Attempt to recreate the profile and if the problem still exists, contact IBM Software Support.

**OB0590(cont.): ABEND X'37' OCCURRED IN cccc****Explanation**

An X'37' abend occurred while processing the profile data set from routine cccc.

**System action**

The request is terminated.

**User response**

Compress and/or re-allocate the data set as required.

**OB0590(cont.): ABEND 913, SECURITY VIOLATION****Explanation**

An abend 913 occurred attempting to access a profile data set.

**System action**

The request is terminated.

**User response**

Contact the person in charge of system security at your installation.

**OB0590(cont.): FILE NOT AVAILABLE****Explanation**

A prior error occurred during user profile facility processing and the file was flagged as unavailable to this OMEGAMON session.

**System action**

The request is terminated.

**User response**

There should be a prior error message. Follow the instructions to correct the first error.

## **OB0590(cont.): GETMAIN FAIL, INCREASE REGION**

### **Explanation**

An attempt to GETMAIN storage failed with a non-zero return code.

### **System action**

The request is terminated.

### **User response**

Increase the region parameter on the EXEC statement or job card of the OMEGAMON session.

## **OB0590(cont.): INPUT DCB OPEN FAILED**

### **Explanation**

An attempt to open the input profile data set was not successful.

### **System action**

The request is terminated.

### **User response**

Make sure that the input profile data set is properly defined. Contact IBM Software Support.

## **OB0590(cont.): INPUT FILE NOT AVAILABLE**

### **Explanation**

A prior error occurred during user profile facility processing and the input file was flagged as unavailable to this OMEGAMON session.

### **System action**

The request is terminated.

### **User response**

Another OB0590 message with a different reason was issued prior to this one. Follow the procedure to correct the first error.

## **OB0590(cont.): INTERNAL ERROR, ccccc**

### **Explanation**

Routine ccccc has detected an OMEGAMON internal error.

### **System action**

The request is terminated.

### **User response**

Contact IBM Software Support.

## **OB0800: INFORMATION UNAVAILABLE—NOT A MULTI-USER ENVIRONMENT**

### **Explanation**

In response to the .VTM command, OMEGAMON determined that the current environment does not support multi-user sessions. There is no meaningful information for the .VTM command to display. Valid multi-user environments are VTM, VTS, and VTT.

**System action**

The command terminates.

**User response**

Use this command only in a valid multi-user environment controlled by OBVTAM.

**OB0801: INFORMATION UNAVAILABLE—INTERNAL ERROR****Explanation**

In response to the .VTM command, OMEGAMON attempted to display multi-session status information. However, OMEGAMON detected one or more problems in the internal subtask configuration for OBVTAM. This problem may be caused by transitory changes in OBVTAM subtask structures, which could result in a program check.

**System action**

The command terminates.

**User response**

Reissue the command. If this message persists, contact IBM Software Support.

**OB0802: NO DATA ONLY SPACES ARE OWNED BY THIS ADDRESS SPACE****Explanation**

No tasks within the address space specified by the PEEK major command own any data-only spaces.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0803: ERROR DETECTED IN INTERNAL SCAN ROUTINE****Explanation**

An internal subroutine detected an error while collecting information on data-only spaces for the specified address space.

**System action**

The command terminates.

**User response**

Try the command again. If this message persists, contact IBM Software Support.

**OB0900: COMMAND *cccc* IS NOT A VALID COMMAND****Explanation**

The command *cccc* is not a minor of the current major command or is not itself a major or immediate command.

**System action**

OMEGAMON bypasses this line.

**User response**

Correct the command and retry.

**OB0901: COMMAND SUPERSEDED BY cccc****Explanation**

OMEGAMON no longer supports the specified command. Command cccc now performs a similar function.

**System action**

OMEGAMON selects the new version of the command.

**User response**

None. In the future, use command cccc.

**OB0902: COMMAND INVALID UNDER nnn****Explanation**

This command is not valid with the MVS™ version you are running (*nnn*).

**System action**

OMEGAMON selects the next command.

**User response**

Use this command with the correct version of MVS™.

**OB0903: INVALID INFO-LINE COMMAND****Explanation**

The INFO-line command entered does not exist.

**System action**

The command is not executed.

**User response**

Correct the command and retry.

**OB0906: COMMAND DISABLED****Explanation**

The specified command was disabled by user security processing.

**System action**

OMEGAMON bypasses this line.

**User response**

Issue another command.

**OB0910: PROGRAM CHECK - RECOVERY SUCCESSFUL - xxxxxxxx****Explanation**

An OMEGAMON command terminated abnormally due to a program check at location xxxxxxxx.

**System action**

OMEGAMON aborts the command.

**User response**

Retry the command. If the problem persists, follow the instructions given in the Preface, then contact IBM Software Support.

**OB0915: CROSS MEMORY ERROR, ADDRESS SPACE SWAPPED OUT****Explanation**

Cross memory operations were attempted to an address space that was swapped out.

**System action**

Program recovery is successful, although the operation is suppressed.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0916: PATTERN MUST BE SET BY .SPT COMMAND****Explanation**

A pattern-controlled operation was requested, but the pattern was not defined.

**System action**

Operation is ignored.

**User response**

Set a proper pattern using the .SPT command.

**OB0917: PATTERN ARGUMENT MUST BE NUMERIC****Explanation**

The command requires a pattern that only has numeric values.

**System action**

Pattern operation is ignored.

**User response**

Correct the command and retry.

**OB0918: NO PATTERN EXISTS****Explanation**

No pattern exists for the requested pattern number.

**System action**

Pattern operation is ignored.

**User response**

Correct the command or assign a pattern.

## **OB0919: PATTERN NUMBER MUST BE 0 THROUGH 9**

### **Explanation**

Invalid pattern number.

### **System action**

Pattern operation is ignored.

### **User response**

Correct the command and retry.

## **OB0920: COMMAND LOOP—RECOVERY SUCCESSFUL**

### **Explanation**

OMEGAMON built-in loop detection encountered a possible loop in an OMEGAMON command processor.

### **System action**

OMEGAMON terminates the command.

### **User response**

Use the .SET command to increase the LOOPTIME and/or LOOPCOUNT values. If the problem persists after setting these values to the maximum, follow the instructions given in the Preface and contact IBM Software Support.

## **OB0921: SECURITY CHECK FAILED (INTERNAL)**

### **Explanation**

A password was not supplied for the security level associated with this command.

### **System action**

OMEGAMON suppresses the command.

### **User response**

Supply a valid password, or see your security administrator.

## **OB0922: SECURITY CHECK FAILED (EXTERNAL)**

### **Explanation**

The OMEGAMON external security interface determined that the command is not authorized for execution.

### **System action**

OMEGAMON suppresses the command.

### **User response**

See your security administrator.

## **OB0924: cccc COMMAND NOT VALID WITH cc ARGUMENT**

### **Explanation**

This command does not support a .D or a .R argument.

**System action**

The command is not executed.

**User response**

Correct the command syntax and retry.

**OB0925: LOOP IN OMEGAMON BASE****Explanation**

OMEGAMON's built-in loop detection encountered a possible loop in an OMEGAMON service module.

**System action**

OMEGAMON terminates with a user ABEND 0925.

**User response**

Use the .SET command to increase the LOOPTIME and/or LOOPCOUNT values. If the problem persists after setting these values to the maximum, follow the instructions given in the Preface and contact IBM Software Support.

**OB0926: LOOP IN OMEGAMON BASE TERMINATION****Explanation**

A loop was detected while termination operations were under way.

**System action**

Termination operations are suspended and OMEGAMON abends.

**User response**

If the problem persists, contact IBM Software Support.

**OB0930: UNEXPECTED PROGRAM CHECK - xxxxxxxx****Explanation**

OMEGAMON abend protection (ESTAE) processing detected a program check error in a module at location xxxxxxxx.

**System action**

OMEGAMON terminates the command.

**User response**

Follow the instructions given in the Preface, then contact IBM Software Support.

**OB0931: CP LOCATE OR CANDLE DIAGNOSE REQUIRED****Explanation**

The command cannot be executed without having either the authority to issue the CP LOCATE, or the IBM® Tivoli® Candle® User Diagnose installed.

**System action**

OMEGAMON® terminates the command.

**User response**

Get the privilege class needed to execute the CP LOCATE command or install the IBM® Tivoli® CandleUser Diagnose as documented in the *OMEGAMON® and EPILOG® for VM Installation and Customization Guide* and regenerate the VM operating system.

**OB0932: CANDLE DIAGNOSE OR CP LOCK COMMAND REQUIRED****Explanation**

The command cannot be executed without having either the IBM® Tivoli® Candle® User Diagnose installed or authority to issue the CP LOCK command.

**System action**

OMEGAMON® terminates the command.

**User response**

Install the IBM® Tivoli® Candle® User Diagnose as documented in the *OMEGAMON® and EPILOG® for VM Installation and Customization Guide* and regenerate the VM operating system, or get the privilege class needed to execute the CP LOCK command.

**OB0933: OMEGAMON® resource cleanup initiated for abend ccccc RC=xxxxxxxx****Explanation**

An abend occurred for an OMEGAMON session, and the non-private area resources will be removed. ccccc is the abend code and xxxxxxxx is the return code associated with the failure. This message is always followed by OB0935.

**System action**

Termination continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0934: LOAD FAILED FOR USER SECURITY EXIT - ccccccc****Explanation**

At initialization, this message appears if OMEGAMON was unable to load the designated user security exit.

**System action**

All EXTERNAL=YES commands with associated security levels of 0 are disabled.

**User response**

Ensure that the user security exit is specified in the MODULE= keyword of the security update program.

**OB0935: OMEGAMON RESOURCE CLEANUP COMPLETE****Explanation**

Abend processing removed non-private area resources in preparation for abnormal termination.

**System action**

Termination continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0936: WARNING—RUNNING KOBAS $nnn$  ON MVS/SP™ $mmm$ . USE KOBAS $bbb$ .****Explanation**

The MVS™ version level of OMEGAMON you are attempting to initialize ( $nnn$ ) does not match the MVS™ version under which you are running ( $mmm$ ). Because we do not distinguish among all possible MVS™ variations,  $mmm$  can be 13x, 2xx, or 3xx. The variable  $bbb$  is the correct level.

**System action**

The system prompts you on whether you want to continue initialization. If you do continue to run an OMEGAMON version that does not match the MVS™ version level, the integrity of some OMEGAMON data may be compromised.

**User response**

Determine whether your site is licensed for the version of OMEGAMON that matches your MVS™ level. If so, check the version level specified in the start-up parameters and change  $nnn$  to  $bbb$ . If not, contact IBM Software Support.

**OB0937: WARNING—RUNNING MVS/SP™ $nnn$  MODULE  $pppppppp$  ON MVS/SP™ $mmm$** **Explanation**

The variable  $nnn$  is the MVS™ version on which the module ( $pppppppp$ ) is supported. It does not match the MVS™ version under which you are running ( $mmm$ ). Because we do not distinguish among all possible MVS™ variations,  $mmm$  can be one of 13x, 2xx, or 3xx.

**System action**

The system prompts you on whether you want to continue initialization. If you do continue and run an OMEGAMON version that does not match the MVS™ version level, the integrity of some OMEGAMON data may be compromised.

**User response**

Determine whether your site is licensed for the version of OMEGAMON that matches your MVS™ level. If so, check the version level specified in the start-up parameters and change  $nnn$  to  $bbb$ . If not, contact IBM Software Support.

**OB0938: WARNING—OMEGAMON UNSUPPORTED ON MVS™ PRE-SP1.3.****Explanation**

OMEGAMON no longer supports versions of MVS™ prior to SP1.3.

**System action**

The system prompts you on whether you want to continue initialization. If you continue to run an OMEGAMON version that does not match the MVS™ version level, the integrity of some OMEGAMON data may be compromised.

**User response**

Upgrade your MVS™ version.

## **OB0939: STORAGE UNAVAILABLE FOR COWA**

### **Explanation**

A collector is starting and needs memory for the work area to communicate with the director. The request for memory has failed.

### **System action**

The collector terminates.

### **User response**

Increase region size and try again.

## **OB0940: NO RESPONSE FROM DIRECTOR FOR 5 MINUTES**

### **Explanation**

During the last 5 minutes, an OMEGAMON collector session did not detect a response from its associated director session.

### **System action**

OMEGAMON terminates the collector.

### **User response**

Determine why the director failed and restart the session.

## **OB0941: COLLECTOR CONNECTION FAILED: NO SEGMENTS AVAILABLE**

### **Explanation**

The user tried to establish more than the maximum number (7) of cross memory collector sessions with a single OMEGAMON director.

### **System action**

OMEGAMON cancels the request.

### **User response**

If you need to display more than 7 cross memory collectors on this system, start another OMEGAMON director.

## **OB0942: COLLECTOR AT WRONG VERSION: CONNECTION FAILED**

### **Explanation**

A cross memory collector at a different (and incompatible) release level tried to start a cross memory session with an OMEGAMON director.

### **System action**

OMEGAMON cancels the request.

### **User response**

Bring up the director and cross memory collector using the same (or a compatible) version of OMEGAMON.

## **OB0943: NO RESPONSE FROM COLLECTOR FOR 5 MINUTES**

### **Explanation**

An OMEGAMON director did not detect a response from one of its associated collectors during the last 5 minutes.

### **System action**

The director terminates this collector session.

### **User response**

Determine why the collector failed, and restart the collector. If the condition continues, contact IBM Software Support.

## **OB0944: DIRECTOR INITIALIZATION FAILED: ID ALREADY IN USE**

### **Explanation**

An attempt to bring up an OMEGAMON director failed because OMEGAMON was already running in another address space using the same system ID (via the SYS= start-up keyword).

### **System action**

OMEGAMON cancels the request.

### **User response**

To initialize the OMEGAMON director, specify a unique value for the SYS= parameter.

## **OB0945: DIRECTOR INITIALIZATION FAILED: NOT AUTHORIZED**

### **Explanation**

An attempt was made to bring up an OMEGAMON director that did not have APF authorization.

### **System action**

OMEGAMON terminates the director.

### **User response**

APF authorize all of the necessary load libraries and restart the director.

## **OB0946: TARGET DIRECTOR NOT FOUND (RC=20)**

### **Explanation**

OMEGAMON could not start the requested OMEGAMON cross memory collector because it could not find the specified director (via the DIR= start-up keyword).

### **System action**

OMEGAMON cancels the request.

### **User response**

Bring up the OMEGAMON director before you try to initialize the collector or specify the ID of an active director.

## **OB0947: ANOTHER COLLECTOR HAS THE SAME ID (RC=24)**

### **Explanation**

An attempt to start the requested OMEGAMON collector failed because another collector was already active using the specified system ID (via the SYS= start-up keyword). You must specify a unique system ID for each collector when you bring up multiple OMEGAMON collectors in the same system.

### **System action**

OMEGAMON cancels the request.

### **User response**

Specify a unique system ID for each collector.

## **OB0948: INVALID NUMBER OF COLUMNS SPECIFIED (RC=36)**

### **Explanation**

The number of columns you specified (via the COLS= keyword) for the cross memory or cross system collector does not match the number of columns for the director with which the collector is attempting to begin a session.

### **System action**

OMEGAMON cancels the request.

### **User response**

Correct the COLS= value at either the collector or director and restart the session.

## **OB0949: DIRECTOR AT WRONG VERSION: CONNECTION FAILED (RC=40)**

### **Explanation**

A cross memory collector tried to start a cross memory session with an OMEGAMON director of a different and incompatible release level.

### **System action**

OMEGAMON cancels the request.

### **User response**

Bring up the director and cross memory collector using the same (or compatible) version of OMEGAMON.

## **OB0950: DISK DATA SET AT WRONG VERSION - REFORMAT (RC=40)**

### **Explanation**

This session's cross system data set was formatted with an incompatible version of the format program.

### **System action**

OMEGAMON cancels the request.

### **User response**

Reformat the cross system data set with the current version of the KOBXDSK program.

## **OB0951: ONLY EIGHT SEGMENTS ALLOWED**

### **Explanation**

The /ATTACH command generates this message. OMEGAMON allows no more than 7 collectors plus the director segment at the director screen for cross memory/cross system mode terminal input/output processing.

### **System action**

OMEGAMON cancels the request.

### **User response**

If you need to display more than 7 collectors on this system, start another OMEGAMON director.

## **OB0952: COLLECTOR ID ALREADY ACTIVE**

### **Explanation**

The /ATTACH command generates this message. While trying to bring up a cross system collector session, OMEGAMON detected that this collector was already in session with a director.

### **System action**

OMEGAMON cancels the request.

### **User response**

Specify the correct collector ID.

## **OB0953: DDNAME MISSING**

### **Explanation**

This message may be issued in either of two situations:

- When the /ATTACH command is issued and OMEGAMON did not find the correct DD statement for the cross system data set.
- When attempting to start a collector and OMEGAMON did not find the correct DD statement for the cross system data set.

### **System action**

OMEGAMON cancels the request.

### **User response**

To correct the error, check the following:

- A collector system ID for the session that matches the name specified on the SYS= start-up parameter.
- A missing or incorrect DD statement in the director start-up JCL or EXEC file to point to the cross system data set.
- A missing or incorrect DD statement in the collector start-up JCL or EXEC file to point to the cross system data set.

When you have corrected the error, restart the OMEGAMON director.

## **OB0954: COLLECTOR ID REQUIRED**

### **Explanation**

The /ATTACH command generates this message. An /ATTACH INFO-line command was entered without a collector ID.

**System action**

OMEGAMON cancels the request.

**User response**

Re-enter the /ATTACH command and specify a valid collector ID.

**OB0955: DATA SET AT WRONG LEVEL - REFORMAT****Explanation**

The /ATTACH command generates this message. A different release level format program was used to format the cross system data set for this cross system session and its director.

**System action**

OMEGAMON cancels the request.

**User response**

Reformat the cross system data set with the current version of the KOBXDSK program.

**OB0956: DATA SET HAS WRONG NUMBER OF COLUMNS - REFORMAT****Explanation**

The /ATTACH command generates this message. The cross system data set used for cross system session initialization was formatted for a different screen size (via the COLS= parameter) than that of the director terminal.

**System action**

OMEGAMON cancels the request.

**User response**

Reformat the cross system data set with KOBXDSK and specify the proper COLS= value.

**OB0957: DIRECTOR MODE IS REQUIRED****Explanation**

The /ATTACH command generates this message. The attempt to attach a cross system collector at an OMEGAMON console failed because it was not initiated as an OMEGAMON director.

**System action**

OMEGAMON cancels the request.

**User response**

Restart OMEGAMON, specifying the proper parameter for director mode.

**OB0958: ENQUEUE ALREADY OUTSTANDING. QNAME: cccc****Explanation**

An enqueue attempt by the director controller failed.

**System action**

The attach is suppressed.

**User response**

If this problem persists, contact IBM Software Support.

**OB0959: DEQUEUE ATTEMPTED FOR RESOURCE NOT OWNED. QNAME:cccc****Explanation**

A dequeue attempt by the director controller failed.

**System action**

The detach is suppressed.

**User response**

If this problem persists, contact IBM Software Support.

**OB0960: BASE(Vnnnccc) AND INIT(Vnnnccc) VERSIONS ARE NOT COMPATIBLE****Explanation**

You are using two incompatible levels of OMEGAMON load modules.

**System action**

OMEGAMON does not start.

**User response**

Verify that the proper libraries are in use. If necessary, reinstall OMEGAMON using the appropriate distribution tape.

**OB0962: UNABLE TO OPEN PRIMARY CONSOLE****Explanation**

OMEGAMON could not bring up the requested dedicated OMEGAMON session because the OMEGAMON console (specified by the UNIT= start-up keyword) is not available.

**System action**

If this is the first OMEGAMON console session in the address space, OMEGAMON terminates. Otherwise, the particular OMEGAMON console session terminates.

**User response**

Check to see whether the terminal address is attached to another user or owned by VTAM®. Specify an available console and retry.

**OB0963: cc MODE INVALID: NOT A TSO SESSION****Explanation**

You can only specify TS or LS mode at OMEGAMON start-up when OMEGAMON is running under a TSO session.

**System action**

OMEGAMON terminates.

**User response**

Correct the MODE= parameter and restart OMEGAMON.

## **OB0964: TS CHANGED TO LS AS THIS IS NOT A SCREEN DEVICE**

### **Explanation**

An OMEGAMON TSO session was altered to low-speed mode, since the OMEGAMON terminal is not a display device.

### **System action**

TS mode becomes LS mode.

### **User response**

Specify MODE=LS when starting OMEGAMON at this device.

## **OB0965: WARNING: NUMBER OF ROWS REQUESTED DOES NOT MATCH YOUR TERMINAL SIZE**

### **Explanation**

The value specified for the ROWS= start-up parameter does not match the actual size of the OMEGAMON terminal screen.

### **System action**

OMEGAMON changes ROWS to match the terminal size; initialization continues.

### **User response**

Specify a ROWS= value that matches your terminal's physical characteristics at OMEGAMON start-up.

## **OB0966: RKOMPCSV DD CONCATENATED, UPDATES IGNORED**

### **Explanation**

The RKOMPCSV DD statement consists of more than one data set.

### **System action**

MVS™ data management constraints prevent OMEGAMON from performing any PDS updates to RKOMPCSV. OMEGAMON ignores requests by the /SAVE and /REP INFO-line commands and the DELT and RENM immediate commands.

### **User response**

Remove the concatenated data sets from the RKOMPCSV DD statement and restart OMEGAMON.

## **OB0967: xxPROCSV PRIOR SECURITY VIOLATION xxPROC —ABEND SX13**

### **Explanation**

A /SAVE or /REP command failed due to a security problem.

### **System action**

The command terminates.

### **User response**

Consult your security coordinator to gain access to the data sets in the xxPROC DD statement.

## **OB0969: INSUFFICIENT MEMORY TO INITIALIZE**

### **Explanation**

OMEGAMON was unable to GETMAIN enough virtual storage to complete initialization.

### **System action**

Start-up fails.

### **User response**

Increase the region size address space and restart OMEGAMON. (See message OB0970).

## **OB0970: INCREASE REGION SIZE BY *nnnK* AND RERUN**

### **Explanation**

Initialization failed because OMEGAMON needed additional virtual storage.

### **System action**

OMEGAMON terminates.

### **User response**

Increase the REGION= parameter by the amount that this message indicates and restart OMEGAMON. (See message OB0969.)

## **OB0971: .....+....1....+....2....+....3....+....4**

### **Explanation**

This ruler appears below message OB0972 to help you locate PARM line errors. The following additional message text displays below the ruler line, followed by the column location of the error, except when the error is in column 1.

### **System action**

The OMEGAMON session terminates.

### **User response**

Examine the message text and make suitable corrections. Additional message text:

- OMEGAMON STARTUP PARAMETER ERROR
- PARM FIELD SYNTAX ERROR
- PARAMETERS MUST BE SEPARATED BY A COMMA
- KEYWORD MUST END IN EQUAL SIGN
- UNKNOWN KEYWORD PARAMETER
- PARAMETER STRING TOO SHORT
- PARAMETER STRING TOO LONG
- PARAMETER NOT VALID HEXADECIMAL VALUE
- PARAMETER VALUE TOO LOW
- PARAMETER VALUE TOO HIGH
- THIRD CHARACTER MUST BE NUMERIC
- FIRST PARAMETER LENGTH ERROR
- UNABLE TO ACQUIRE STORAGE FOR PARAMETER TABLES

- UNIT SAME AS EXISTING TASK
- OMEGAMON HAS PROBABLY BEEN ENTERED AS A TSO COMMAND
- UNSUPPORTED MODE - BASE
- UNSUPPORTED MODE - OMEGAMON
- UNSUPPORTED MODE - NO IC DRIVER

## **OB0972: (USER INPUT APPEARS HERE)**

### **Explanation**

OMEGAMON issues this message with OB0971 (see above).

### **System action**

OMEGAMON terminates.

### **User response**

See the error code for OB0971.

## **OB0973: WARNING -- RUNNING *nnn* OMEGAMON® ON *yyy* SYSTEM**

### **Explanation**

This level of OMEGAMON® (*nnn*) is incompatible with this level of VM (*yyy*).

### **System action**

OMEGAMON® initialization continues, but with unpredictable results.

### **User response**

If OMEGAMON® did not terminate itself, stop it, install the correct OMEGAMON® level, and restart OMEGAMON®.

## **OB0974: *aaaaaaaa* LOADER ERROR**

### **Explanation**

OMEGAMON attempted to load module *aaaaaaaa*, but could not find it in the load library.

### **System action**

The load fails and OMEGAMON issues an abend code 0974.

### **User response**

Check that module *aaaaaaaa* is in the load library.

## **OB0975: *aaaaaaaa* MODULE HAS REENTRANT LINKAGE EDITOR ATTRIBUTE**

### **Explanation**

OMEGAMON could not update the module *aaaaaaaa* because it resides in a store-protected subpool.

### **System action**

OMEGAMON terminates.

### **User response**

Relink module *aaaaaaaa* without the RENT linkage editor parameter.

## **OB0976: RMF™ ASCB NOT FOUND**

### **Explanation**

OMEGAMON was unable to locate proper ASCB during RMF™ search.

### **System action**

The process terminates.

### **User response**

Contact IBM Software Support.

## **OB0977: {SMF|WTO} AUDITING IS BEING SUPPRESSED FOR THIS SESSION**

### **Explanation**

The user security exit has explicitly requested that SMF and/or WTO auditing be suppressed for this session; this request is made at initialization and/or relogin time. This message only appears once.

### **System action**

The command terminates.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB0978: SECURITY ROUTINE HAS ABORTED STARTUP**

### **Explanation**

An external security routine passed back a non-zero return code to initialization.

### **System action**

OMEGAMON terminates.

### **User response**

See your security officer.

## **OB0979: ERROR LOADING PRODUCT MODULE cccccccc**

### **Explanation**

The product module could not be loaded successfully.

### **System action**

OMEGAMON terminates.

### **User response**

Be sure the named module is in the product library. See accompanying MVS™ system messages and take appropriate action. If it is not in the product library, contact IBM Software Support.

## **OB0980: SAVE STACK RECOVERY SUCCESSFUL**

### **Explanation**

The save area stack overflowed.

**System action**

The command terminates.

**User response**

Contact IBM Software Support.

**OB0981: COMMAND TABLE ERROR cccc****Explanation**

A validation error occurred while loading the command table module.

**System action**

OMEGAMON terminates.

**User response**

Contact IBM Software Support.

**OB0982: ERROR DETECTED IN COMMAND TABLES****Explanation**

An error occurred while loading the command tables.

**System action**

This is a secondary message. It follows messages that contain validation error information.

**User response**

Examine the previous errors and follow the recommended user responses.

**OB0983: CANNOT LOCATE COMMAND TABLE MODULE, ABEND=cccc, RC=cc****Explanation**

The usual cause of this message is insufficient region size for OMEGAMON to load the command table module.

**System action**

OMEGAMON aborts the session start.

**User response**

See your installer to increase the region size. For other possible causes, look up the abend code in the IBM® *System Codes* manual for your system. You may also need to refer to the IBM® *System Messages* manual.

**OB0984: NO COMMAND TABLE MODULE NAME****Explanation**

An error occurred in command table processing.

**System action**

OMEGAMON terminates.

**User response**

Contact IBM Software Support.

## **OB0985: SAVE STACK RECOVERY SUCCESSFUL**

### **Explanation**

Invalid stack release by a command.

### **System action**

OMEGAMON terminates the command execution.

### **User response**

This is an internal error. Contact IBM Software Support.

## **OB0986: GETMAIN FAILED FOR COMMAND TABLES**

### **Explanation**

The request for storage for a copy of the command module failed.

### **System action**

OMEGAMON terminates.

### **User response**

Increase the region size for OMEGAMON.

## **OB0987: PRODUCT INITIALIZATION FAILED, RC=*nnn***

### **Explanation**

The product initialization routines have returned an error code which is non-zero.

### **System action**

OMEGAMON terminates.

### **User response**

Read any other messages that accompany this message. If unable to find the problem, contact IBM Software Support.

## **OB0988: PRODUCT LEVEL *nnn* INCOMPATIBLE WITH DRIVER LEVEL *mmm***

### **Explanation**

The base driver module cannot service the current product.

### **System action**

OMEGAMON initialization stops.

### **User response**

Use a base driver which is at the same or greater level than the product you are trying to initialize. Retry using this new driver.

## **OB0989: KOBICUSER<sub>cc</sub> MUST BE REASSEMBLED; IT IS NOT COMPATIBLE WITH THIS RELEASE OF OMEGAMON**

### **Explanation**

The user assembled an old KOBICUSER module that is incompatible with the current release of OMEGAMON.

**System action**

OMEGAMON initialization stops.

**User response**

Obtain the current KOBICUSER from the product tape and reassemble.

**OB0990: SECURITY LOGGING, *userid*, *cccccccc*, ACCESS(*aaaaaaaa*)****Explanation**

The security settings of the command table produce this security logging message. The variable *cccccccc* is the command being validated and *aaaaaaaa* is the result. The *userid* is displayed if AUDIT=WTO is specified.

**System action**

OMEGAMON terminates execution of any command to which it denies access.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB0991: DYNAMIC ALLOCATION ERROR: ERROR=*cccc*, INFO=*cccc*****Explanation**

A dynamic allocation request failed with the ERROR and INFO codes indicated.

**System action**

The allocation process terminates.

**User response**

Examine the error and information codes in the message and take appropriate action.

**OB0992: *aaUSERbb* VALIDATION FAILED. RC=*n*****Explanation**

The user profile *aaUSERbb* did not pass product validation.

**System action**

Session initialization terminates.

**User response**

If other messages were issued previously, take the action suggested for those messages. If no other messages were issued, contact IBM Software Support.

**OB0993: NO ARGUMENT HAS BEEN SUPPLIED****Explanation**

A valid argument was not supplied for the command.

**System action**

The command terminates.

**User response**

Supply a valid argument and reissue the command.

## **OB0994: NO VALID PATTERN HAS BEEN SUPPLIED**

### **Explanation**

A valid pattern was not supplied for the command.

### **System action**

The command terminates.

### **User response**

Supply a valid pattern and reissue the command.

## **OB0995: UNABLE TO LOG AUDIT RECORD TO SMF, RC=cc**

### **Explanation**

A non-zero return code was received from SVC 83 while attempting to track an audited command. These codes are documented in the *IBM® System Programming Library: System Management Facilities (SMF)* manual for your system.

### **System action**

A WTO is issued to the console with audit information.

### **User response**

Consult the appropriate IBM® documentation for an explanation and interpretation of the non-zero return code. This return code may indicate a serious problem with SMF.

## **OB0996: APF AUTHORIZATION REQUIRED FOR SMF LOGGING**

### **Explanation**

OMEGAMON cannot write SMF records unless it is APF-authorized. This message will appear only once; thereafter, all audit activity will be directed to the console for the duration of the session.

### **System action**

A WTO is issued to the console with audit information.

### **User response**

Determine whether OMEGAMON should be authorized. This is an installation decision.

## **OB0997: RECORD NUMBER MUST BE BETWEEN 128 AND 255 (INCLUSIVE) FOR SMF LOGGING**

### **Explanation**

OMEGAMON detected a request to write an SMF record with an invalid record ID. User SMF records must use a record ID between 128 and 255, inclusive. This message will appear only once; thereafter, all audit activity will be directed to the console for the duration of the session.

### **System action**

A WTO is issued to the console with audit information.

### **User response**

Use the Security Update Program to specify a valid SMF record ID.

## **OB0998: EXTERNAL SECURITY IS UNAVAILABLE**

### **Explanation**

OMEGAMON could not locate the user security routine to process a command for which external security was requested. Internal security was not invoked because the command did not have a security level associated with it.

### **System action**

OMEGAMON suppresses command execution.

### **User response**

Determine why the user security routine is missing. Make sure it is in a link-list library or in the OMEGAMON STEPLIB.

## **OB1112: DATA COLLECTOR IS NOT ACTIVE**

### **Explanation**

The requested collector is not currently active.

### **System action**

The IPRO command processor suppresses the display.

### **User response**

Start the collector and retry the command.

## **OB1116: REQUEST NOT SUPPORTED**

### **Explanation**

The request is not supported by the target collector.

### **System action**

The IPRO command processor suppresses the display.

### **User response**

Correct the parameters and retry the request.

## **OB1120: REQUESTED DATA NOT VALID**

### **Explanation**

The IPRO collector's data is currently statistically invalid. Sufficient data has not yet accumulated for a meaningful display.

### **System action**

The IPRO command processor suppresses the display until enough samples have accumulated.

### **User response**

Wait for sufficient time to gather data. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1124: REQUESTED DATA NOT AVAILABLE**

### **Explanation**

The requested data is not being collected at this time.

### **System action**

The IPRO command processor suppresses the display.

### **User response**

Stop and restart the collector requesting the required data, or correct the collector start-up parameters and retry the request.

## **OB1140: REQUEST INCONSISTENT OR UNDEFINED**

### **Explanation**

The IPRO display parameters are not valid, so the processor suppresses the display.

### **System action**

The extractor was unable to process the parameters successfully.

### **User response**

Correct the parameters and retry.

## **OB1148: SUCCESSFUL ABEND RECOVERY IN EXTRACTOR**

### **Explanation**

An error occurred in the IPRO data display extractor. No presentation is made during this cycle.

### **System action**

The IPRO command processor suppresses the display.

### **User response**

Contact IBM Software Support.

## **OB1191: UNABLE TO LOAD IANL PROCESSOR MODULE**

### **Explanation**

OMEGAMON could not find the Impact Analysis processor module to load.

### **System action**

The IPRO command processor suppresses the display.

### **User response**

If this module should be available, contact IBM Software Support.

## **OB1195: MISSING EXTRACTOR NAME**

### **Explanation**

No extractor identification was given to the IPRO command processor. Either this is the first time the command was used, or it was cleared by the first extractor and there are no new operands.

**System action**

The IPRO command processor suppresses the display.

**User response**

Supply a proper extractor ID.

**OB1196: DATA EXTRACTOR ADDRESS = 0 - xxxx****Explanation**

The IPRO display processor for xxxx could not be located in this set of OMEGAMON modules.

**System action**

The IPRO command processor suppresses the display.

**User response**

Contact IBM Software Support.

**OB1197: UNKNOWN RETURN CODE FROM EXTRACT - cc****Explanation**

The IPRO display processor returned the code cc which is unknown to the IPRO command.

**System action**

The IPRO command processor suppresses the display.

**User response**

Contact IBM Software Support.

**OB1198: INVALID PARAMETER - cccc****Explanation**

The first 4 characters (cccc) of the operand are invalid.

**System action**

The IPRO command processor suppresses the display.

**User response**

Specify a valid IPRO collector and retry.

**OB1199: IPRO COMMAND NOT SUPPORTED****Explanation**

The IPRO command is not supported at this product level. IPRO requires DEXAN®.

**System action**

The IPRO command processor suppresses the display.

**User response**

Contact IBM Software Support.

## **OB1200: SEVERE ISPF ERROR DETECTED**

### **Explanation**

ISPF has returned a severe error condition code to the OMEGAMON ISPF driver.

### **System action**

The ISPF session terminates.

### **User response**

Look for other messages and take appropriate action.

## **OB1201: TSO SERVICE ERROR RETURN CODE *nnn***

### **Explanation**

The TSO service task has returned the error code indicated.

### **System action**

The ISPF session terminates.

### **User response**

Examine the error code and take appropriate action. Refer to the IBM® manual, *TSO Extensions User's Guide*.

## **OB1202: ATTACH FAILED FOR MONITOR TASK**

### **Explanation**

ISPF issued a non-zero return code in response to /ATTACH.

### **System action**

The ISPF session terminates.

### **User response**

Examine the return code and take appropriate action.

## **OB1203: MONITOR TASK COMPLETE, RETURN CODE = *cc***

### **Explanation**

The monitor task (OMEGAMON) terminated with the indicated return code.

### **System action**

The task terminates.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1204: MONITOR TASK ABENDED, COMPLETION CODE = *cc***

### **Explanation**

The monitor task (OMEGAMON) terminated with the indicated abend code.

**System action**

The task terminates.

**User response**

Contact IBM Software Support.

**OB1210: PARM STRING LENGTH ERROR****Explanation**

The PARM string entered was too long, causing internal buffer overflow.

**System action**

The task terminates.

**User response**

Shorten the PARM string and retry the command.

**OB1211: UNABLE TO LOAD ISPLINK MODULE****Explanation**

The ISPF driver module was unable to load ISPLINK, the ISPF interface.

**System action**

The task terminates.

**User response**

Make sure a copy is available to the ISPF driver.

**OB1212: PANEL OMSPF01 NOT FOUND****Explanation**

The SPF driver module could not find the OMSPF01 panel.

**System action**

The task terminates.

**User response**

Be sure the panel is in the correct ISPF library and retry.

**OB1213: VARIABLE OMSPFD NOT IN PANEL OMSPF01****Explanation**

The OMSPFD variable was not in the panel.

**System action**

The task terminates.

**User response**

Make sure that the correct panel is installed and that user changes have not caused this field to be omitted.

## **OB1214: INSUFFICIENT SPACE FOR PQUERY FUNCTION**

### **Explanation**

ISPF indicated a short-on-storage condition.

### **System action**

The task terminates.

### **User response**

Increase the TSO address space region and retry.

## **OB1215: DATA TRUNCATION HAS OCCURRED**

### **Explanation**

Internal data truncation occurred within a panel variable.

### **System action**

The task terminates.

### **User response**

Make sure that the variable lengths shown in the panel have not been changed.

## **OB1216: VARIABLE NOT FOUND**

### **Explanation**

A variable that the ISPF driver requires could not be found in the ISPF subpools.

### **System action**

The task terminates.

### **User response**

This is an internal error. Contact IBM Software Support.

## **OB1217: INVALID SCREEN SIZE**

### **Explanation**

The screen parameters are invalid for ISPF mode. COLS and ROWS must match the TSO specification for the device.

### **System action**

The task terminates.

### **User response**

Correct the screen specification parameters (COLS and ROWS) and restart.

## **OB1220: UNKNOWN RETURN CODE FROM ISPLINK**

### **Explanation**

ISPLINK returned a code 20 or above to the calling task.

**System action**

The task terminates.

**User response**

Contact IBM Software Support.

**OB1250: cccccccc STORAGE REQUEST FAILED****Explanation**

The request for storage for module cccccccc failed.

**System action**

The TSO or ISPF mode task terminates.

**User response**

Increase the region size for the TSO address space.

**OB1251: ATTACH FAILED FOR cccccccc, RETURN CODE = xx****Explanation**

A non-zero return code from ATTACH of module cccccccc was received.

**System action**

The TSO or ISPF mode task terminates.

**User response**

Examine the error code and call your systems support. If the problem persists, contact IBM Software Support.

**OB1252: MODULE ABENDED, COMPLETION CODE = xxx****Explanation**

The module abended with the indicated return code.

**System action**

The application using the module is terminated.

**User response**

Examine the abend code and call your systems support. If the problem persists, contact IBM Software Support.

**OB1253: SET STFSMODE ON FAILED AT INITIALIZATION****Explanation**

OMEGAMON could not set full-screen mode on as requested for TSO mode.

**System action**

The task terminates.

**User response**

Contact IBM Software Support.

## **OB1254: SET STTMPMD OFF FAILED AT INITIALIZATION**

### **Explanation**

OMEGAMON could not set display manager off as requested for TSO mode.

### **System action**

The task terminates.

### **User response**

Contact IBM Software Support.

## **OB1255: SET STFMODE OFF FAILED AT TERMINATION**

### **Explanation**

OMEGAMON could not set full-screen mode off as requested for TSO mode.

### **System action**

The task terminates.

### **User response**

Contact IBM Software Support.

## **OB1256: SET STTMPMD ON FAILED AT TERMINATION**

### **Explanation**

OMEGAMON could not set display manager on as requested for TSO mode.

### **System action**

The task terminates.

### **User response**

Contact IBM Software Support.

## **OB1257: {TSO|ISPF} MODE TASK TERMINATED**

### **Explanation**

The task completed its processing with a normal termination.

### **System action**

The TSO or ISPF mode task terminates.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1258: cccccccc FREE STORAGE REQUEST FAILED**

### **Explanation**

The free storage request has failed in module cccccccc.

**System action**

The task terminates.

**User response**

Examine the error code in the SYSLOG. If the problem persists, contact IBM Software Support.

**OB1259: LOAD cccccccc FAILED****Explanation**

The load request for module cccccccc has failed.

**System action**

The task terminates.

**User response**

Examine the error code in the SYSLOG. Ensure that load module cccccccc is in the proper load library. If the problem persists, contact IBM Software Support.

**OB1260: DELETE cccccccc FAILED****Explanation**

The delete request for module cccccccc has failed.

**System action**

The task terminates.

**User response**

Contact IBM Software Support.

**OB1261: GTTERM FAILED****Explanation**

The request to get terminal attributes has failed.

**System action**

The task terminates.

**User response**

Contact IBM Software Support.

**OB1401: MISSING USER ID****Explanation**

The user ID field in the logon panel is missing.

**System action**

OMEGAMON redisplays the logon panel.

**User response**

Enter the required user ID.

## **OB1402: MISSING PASSWORD**

### **Explanation**

The password field in the logon panel is missing.

### **System action**

OMEGAMON redisplay the logon panel.

### **User response**

Enter your password.

## **OB1404: RE-ENTER NEW PASSWORD FOR VERIFICATION**

### **Explanation**

The system asks the user to re-enter the new password.

### **System action**

The system waits for the user to re-enter the new password to verify that the new password is correct.

### **User response**

Enter the new password in the new password field.

## **OB1405: VERIFICATION OF NEW PASSWORD FAILED**

### **Explanation**

When the password was entered a second time for verification, it did not match the new password.

### **System action**

The system waits for the user to attempt another logon.

### **User response**

Enter the correct password.

## **OB1501: INVALID ARGUMENT: cc**

### **Explanation**

The argument field contains invalid data for the command that appears above this message on the screen.

### **System action**

OMEGAMON does not process the command.

### **User response**

Enter appropriate data in the command argument field.

## **OB1502: INSUFFICIENT MEMORY FOR SCRN COMMAND**

### **Explanation**

OMEGAMON does not have sufficient memory to build the screen member name lists from the various sources (main storage, KOBICSPROC, and RKOMPCSV) that the SCRN command displays.

**System action**

OMEGAMON does not process the command.

**User response**

Provide additional storage resources for the executing OMEGAMON.

**OB1503: DATA SET EMPTY****Explanation**

There were no members in the indicated KOBICSPROC data set for the SCRN command to display.

**System action**

The SCRN command displays member names in the other KOBICSPROC data sets.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB1504: NO MEMBERS FOUND WITHIN RANGE (cccccccc THRU cccccccc)****Explanation**

OMEGAMON found no screen names within the from/through range specified by the SCRN command.

**System action**

None.

**User response**

Enter a different from/through selection range.

**OB1505: TOO MANY MEMBERS SPECIFIED****Explanation**

There are too many screen space members for the LSCR command to load into main storage. The maximum number is 62.

**System action**

OMEGAMON does not load the screen spaces into main storage.

**User response**

Reduce the number of members to load.

**OB1506: INVALID MEMBER NAME cccccccc****Explanation**

The LSCR command detected a screen member name that is too long or that contains invalid characters.

**System action**

OMEGAMON does not load the screen into main storage.

**User response**

Correct the screen member name on the LSCR command.

## **OB1507: LOAD FAILED - MEMBER ccccccc NOT FOUND**

### **Explanation**

The user specified screen space ccccccc with an LSCR command; OMEGAMON did not find it in the KOBICSPROC library.

### **System action**

OMEGAMON ignores specification of screen space ccccccc and loads any other specified screen spaces.

### **User response**

Make sure that the specified screen space exists in KOBICSPROC or RKOMPCSV library. Check KOBICSPROC concatenation.

## **OB1508: nnn MEMBERS LOADED**

### **Explanation**

The LSCR command successfully loaded nnn screen spaces to main storage.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1509: ENTER MEMBER NAMES TO LOAD**

### **Explanation**

The LSCR command attempted to load screen spaces to main storage, but there were no member names specified.

### **System action**

The command terminates.

### **User response**

Enter member names following the LSCR command.

## **OB1521: MEMBER ccccccc DELETED BOTH IN-STORAGE AND FROM RKOMPCSV**

### **Explanation**

The user specified screen space ccccccc with a DELTB command, and OMEGAMON successfully deleted it from main storage (in-storage) and RKOMPCSV.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1522: MEMBER NAME - ccccccc NOT FOUND IN-STORAGE**

### **Explanation**

The user specified screen space ccccccc with a DELTI or DELTB command; OMEGAMON did not find it in main storage (in-storage).

### **System action**

None.

### **User response**

Verify that the screen space name is correct.

## **OB1523: MEMBER ccccccc DELETED IN-STORAGE**

### **Explanation**

OMEGAMON successfully deleted screen space ccccccc from main storage (in-storage) as a result of DELTB or DELTI command.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1524: MEMBER ccccccc DELETED FROM RKOMPCSV**

### **Explanation**

OMEGAMON successfully deleted screen space ccccccc from RKOMPCSV as a result of DELTB or DELTD command.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1525: DELETE FAILED - ccccccc NOT FOUND IN RKOMPCSV**

### **Explanation**

The user specified screen space ccccccc with a DELTB or DELTD command, and OMEGAMON did not find it in RKOMPCSV.

### **System action**

None.

### **User response**

Verify that the screen space name is correct.

## **OB1531: MEMBER *oldname* RENAMED TO *newname* BOTH IN-STORAGE AND IN RKOMPCSV**

### **Explanation**

The user specified screen space *oldname* with a RENMB command, and OMEGAMON successfully renamed it to *newname* in main storage (in-storage) and in RKOMPCSV.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1532: MEMBER NAME - ccccccc NOT FOUND IN-STORAGE**

### **Explanation**

The user specified screen space *ccccccc* with a RENMI or RENMB command; OMEGAMON did not find it in main storage (in-storage).

### **System action**

None.

### **User response**

Verify that the screen space name is correct.

## **OB1533: MEMBER *oldname* RENAMED TO *newname* IN-STORAGE**

### **Explanation**

OMEGAMON successfully renamed screen space *oldname* to *newname* in main storage (in-storage) as a result of RENMI or RENMB command.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1534: MEMBER *oldname* RENAMED TO *newname* IN RKOMPCSV**

### **Explanation**

OMEGAMON successfully renamed screen space *oldname* to *newname* in RKOMPCSV as a result of a RENMD or RENMB command.

### **System action**

The command executes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB1535: RENAME FAILED - ccccccc NOT FOUND IN RKOMPCSV**

### **Explanation**

The user specified screen space ccccccc on a RENMD or RENMB command, and OMEGAMON did not find it in main storage (in-storage).

### **System action**

None.

### **User response**

Verify that the screen space name is correct.

## **OB1537: RENAME FAILED - ccccccc DIRECTORY FULL**

### **Explanation**

The PDS directory for file ccccccc is full and cannot contain additional screen space names.

### **System action**

OMEGAMON does not rename the screen space in RKOMPCSV.

### **User response**

Compress the PDS library or provide additional directory space.

## **OB1538: RENAME FAILED - ccccccc ALREADY EXISTS IN-STORAGE**

### **Explanation**

The user issued a RENMI or RENMB command with a screen space name ccccccc that already exists in main storage (in-storage) and cannot be renamed.

### **System action**

OMEGAMON does not change the original screen space name.

### **User response**

Correct the new screen space name and retry the command.

## **OB1539: RENAME FAILED - ccccccc ALREADY EXISTS IN RKOMPCSV**

### **Explanation**

The user issued a RENMD or RENMB command with a screen space name ccccccc that already exists in RKOMPCSV and cannot be renamed.

### **System action**

OMEGAMON does not change the original screen space name.

### **User response**

Correct the new screen space name and retry the command.

## **OB2001: DATA-ONLY SPACE *cccccccc* DOES NOT EXIST**

### **Explanation**

The data-only space *cccccccc* specified in the command cannot be found. *cccccccc* is the name of the data-only space or the first 1–7 characters of the data-only space name. If *cccccccc* is displayed in the message as less than 8 characters, it means that there were no data-only spaces found beginning with the characters *cccccccc*.

### **System action**

The command is terminated.

### **User response**

Correct the data-only space name and reissue the command. The PEEK command may be used to find the names of data-only spaces owned by a job.

## **OB2002: DATA-ONLY SPACE *cccccccc* IS NOT OWNED BY JOB *aaaaaaaa***

### **Explanation**

Job *aaaaaaaa* is not the owner of data-only space *cccccccc*. *aaaaaaaa* is the jobname given in the command or the name of the job identified by the ASID.

### **System action**

The command terminates.

### **User response**

Correct the data-only space name, the jobname, or ASID and reissue the command. The PEEK command may be used to find the names of data-only spaces owned by a job's TCBs. The OSPC command may be used to find the jobname and ASID of the owning TCB of a data-only space.

## **OB2003: *aaaaaaaa ccccccc* HAS BEEN DELETED**

### **Explanation**

The TCB owning data-only space *aaaaaaaa* of type *ccccccc* has deleted the space or has itself been terminated. The space no longer exists.

### **System action**

The command is terminated.

### **User response**

None.

## **OB2005: DATA-ONLY SPACE PROCESSING UNAVAILABLE - RC=*nnnn***

### **Explanation**

Due to an internal OMEGAMON error, OMEGAMON is unable to perform data-only space processing.

### **System action**

The command terminates.

### **User response**

Contact IBM Software Support with the return code.

## **OB2006: DATA-ONLY SPACE NAME MUST BE 8 CHARACTERS OR LESS**

### **Explanation**

A data-only space name of greater than 8 characters was entered as input.

### **System action**

The command terminates.

### **User response**

Correct the name of the data-only space. The OSPC command may be issued to obtain the name of all data-only spaces in the system.

## **OB2007: DATA-ONLY SPACE NAME IS A REQUIRED PARAMETER**

### **Explanation**

A data-only space command (e.g., SLST, SZAP) was issued without the name of a data-only space as input.

### **System action**

The command terminates.

### **User response**

Correct the command input by supplying a data-only space name as the second parameter. The OSPC command may be issued to obtain the name of all data-only spaces in the system.

## **OB2008: ALESERV ADD NON-ZERO RETURN CODE, RC = *nn***

### **Explanation**

An attempt to obtain addressability to a data space failed with return code *nn*.

### **System action**

The command terminates.

### **User response**

Ensure that the data space input to the affected command has not been deleted. If the data space still exists, contact IBM Software Support.

## **OB2009: HPSERV return code, RC = *xx***

### **Explanation**

An attempt to access a Hiperspace™™ failed with return code *xx*.

### **System action**

The command terminates.

### **User response**

Contact IBM Software Support.

## **OB2010: ACCESS TO *aaaaaaaa* *ccccccc* IS NOT AUTHORIZED**

### **Explanation**

An attempt was made to access a non-shareable data-only space *aaaaaaaa* of type *ccccccc* without authorization.

**System action**

The command terminates.

**User response**

Authorization may be obtained to non-shareable data-only spaces by issuing the command .DSAON.

**OB2011: ACCESS TO DATA SPACE *aaaaaaaa* DENIED, SCOPE UNKNOWN****Explanation**

An attempt was made to access data space *aaaaaaaa*, but OMEGAMON was not able to determine the SCOPE of the data space.

**System action**

The command terminates.

**User response**

Contact IBM Software Support.

**OB2100: RMF™ SUBROUTINE LOAD MODULE OBRMFS*nn* NOT AVAILABLE****Explanation**

OMEGAMON attempted to access module OBRMFS*nn* but failed.

**System action**

The command terminates.

**User response**

Check to make sure that the OBRMFS*nn* modules were copied from the OMEGAMON distribution tape. If the modules are in the OMEGAMON load library, contact IBM Software Support.

**OB2101: RMF™ LEVEL *nnnn* IS NOT IN TABLE****Explanation**

An attempt was made to set the RMF™ level to a level that OMEGAMON did not recognize.

**System action**

The command terminates.

**User response**

Check to make sure that the correct RMF™ level is entered on the input screen. If it is entered correctly but OMEGAMON does not recognize it, contact IBM Software Support. You may need to receive support for a new level of RMF™.

**OB2102: INPUT MUST BE EITHER *nnn* OR *n.n.n*****Explanation**

The operand on the RMFS command must have the format *nnn* or *n.n.n*.

**System action**

The command terminates.

**User response**

Correct the input to the RMFS command and press ENTER.

**OB2103: RMF™ LEVEL HAS BEEN DYNAMICALLY DETERMINED - COMMAND INVALID****Explanation**

OMEGAMON determined the level of RMF™ dynamically. RMFS cannot be used to override the RMF™ level in this situation.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB2104: RMF™ LEVEL UNCHANGED - UNABLE TO LOAD MODULE *nnnnnnnn*****Explanation**

An attempt was made to change to a new level of RMF™, however, the required load module was not available.

**System action**

The command terminates. The RMF™ level stays unchanged.

**User response**

Make sure that the load module is copied from the installation tape. If the module is not on the tape, contact IBM Software Support.

**OB2200: SUBSYSTEM *aaaa* REQUEST RETURNED RC=*bbbb* AND ERRCODE *cccccccc*****Explanation**

A call to the Candle® Subsystem has resulted in a non-zero return code.

***aaaa***

Identifies the type of request: INIT or REQ.

***bbbb***

Identifies the return code.

**4**

Internal error

A common cause of this return code is a version or maintenance level mismatch between the running Candle® subsystem and the product issuing the message. If you have multiple SMP/E environments make sure that all have the same Candle® subsystem FMID and maintenance installed.

**8**

Subsystem not active

**20**

Subsystem module not found

***cccccccc***

Identifies the error code.

**System action**

The interface to the Candle® Subsystem returns the address of the static device table that might be obsolete. You may also need a later version of the Candle® Subsystem.

**User response**

Contact IBM Software Support.

**OB4101: MEMORY FOR USER PROFILE TABLES NOT AVAILABLE****Explanation**

There is not enough memory available for the user profile tables.

**System action**

The command terminates.

**User response**

Increase the region size and retry.

**OB4222: UNABLE TO LOCATE REQUIRED LEVEL-DEPENDENT BASE MODULE  
KOBASnnn****Explanation**

OMEGAMON attempted to locate the corresponding base module required for the current operating system level. The required module could not be found.

**System action**

OMEGAMON terminates.

**User response**

Make sure that OMEGAMON is executed at the operating system level for which your installation is licensed. Contact IBM® Corporation for licensing and sales information.

**OB4223: CURRENT OPERATING SYSTEM LEVEL NOT SUPPORTED****Explanation**

OMEGAMON has determined that the current operating system level is not supported. Only MVS/SP™™ 1, 2, and 3 are supported; earlier versions are not supported. (SP™™ 1 support is further limited to SP™™ 1.3 and above.)

**System action**

OMEGAMON terminates.

**User response**

Run OMEGAMON only on those systems with supported operating system levels.

**OB7001: OVUSERcc DATA FILE NOT FOUND****Explanation**

The OVUSERcc DATA file specified by USER xx in the startup parms or the .USR command was not found.

**System action**

OMEGAMON® uses all default values for execution parameters. The default OVUSER DATA file is 99.

**User response**

Continue with OMEGAMON® initialization or restart OMEGAMON® specifying the correct USER startup parameter value, or reissue the .USR command specifying the correct parameter.

**OB7002: INVALID SWITCH SETTING - MUST BE ON OR OFF****Explanation**

The indicated parameter must be specified as either ON or OFF.

**System action**

OMEGAMON® uses the default value.

**User response**

Correct the parameter value to specify ON or OFF at next execution.

**OB7003: INVALID PARAMETER****Explanation**

The indicated word is not a valid OMEGAMON® startup parameter.

**System action**

OMEGAMON® ignores the entire parameter group (including any possible subordinate keywords).

**User response**

Check for spelling problems. Check to make sure that a previous parameter was not continued incorrectly.

**OB7004: INVALID SYNTAX****Explanation**

The format of the indicated input stream is invalid.

**System action**

OMEGAMON® ignores either all or part of the current parameter group.

**User response**

Correct the formatting error. Ensure that all required delimiters (commas, parentheses, and so on) are entered correctly.

**OB7005: INVALID CHARACTER - ACCEPTED AS DELIMITER****Explanation**

An invalid character was found in the input stream.

**System action**

The character is assumed to be a delimiter.

**User response**

Enter a valid character if a delimiter was not intended.

## **OB7006: INVALID KEYWORD**

### **Explanation**

The indicated word is not a valid keyword for the current parameter group being processed.

### **System action**

OMEGAMON® ignores the keyword.

### **User response**

Check for possible spelling or continuation errors.

## **OB7007: INVALID KEYWORD VALUE**

### **Explanation**

The value specified for the indicated parameter keyword is invalid.

### **System action**

OMEGAMON® ignores the keyword.

### **User response**

Specify the keyword value as required.

## **OB7008: INVALID HEX DATA**

### **Explanation**

EBCDIC characters were specified for a keyword requiring hexadecimal data.

### **System action**

OMEGAMON® ignores the keyword.

### **User response**

Correct the keyword value.

## **OB7009: INVALID NUMERIC DATA**

### **Explanation**

EBCDIC characters were specified for a keyword requiring numeric data.

### **System action**

OMEGAMON® ignores the keyword.

### **User response**

Correct the keyword value.

## **OB7010: KEYWORD VALUE OR LENGTH BELOW ALLOWED MIN**

### **Explanation**

The value specified for the indicated keyword is either too short (character) or too small (integer or hex).

### **System action**

OMEGAMON® ignores the keyword.

**User response**

Check the minimum that can be specified for the keyword and correct the keyword value.

**OB7011: KEYWORD VALUE OR LENGTH ABOVE ALLOWED MAX****Explanation**

The value specified for the indicated keyword is either too long (character) or too large (integer or hex).

**System action**

OMEGAMON® ignores the keyword.

**User response**

Check the maximum that can be specified for the keyword and correct the keyword value.

**OB7012: DUPLICATE PARAMETER****Explanation**

A duplicate keyword has been found in the input stream.

**System action**

OMEGAMON® ignores the duplicate parameter.

**User response**

Remove or correct the duplicate keyword.

**OB7013: MISSVM LIMIT EXCEEDED****Explanation**

The internal buffers required to hold the data specified by the OVUSER MISSVM parameter have overflowed.

**System action**

The MISSVM keyword specifications that will fit in storage will be accepted with the remainder ignored.

**User response**

Increase the virtual storage size of the OMEGAMON® for VM virtual machine or specify few MISSVM keyword values.

**OB7014: MISSDA LIMIT EXCEEDED****Explanation**

The internal buffers required to hold the data specified by the OVUSER MISSDA parameter have overflowed.

**System action**

The MISSDA keyword specifications that will fit in storage will be accepted with the remainder ignored.

**User response**

Increase the virtual storage size of the OMEGAMON® for VM virtual machine or specify few MISSDA keyword values.

## **OB7017: USERID OR ACCOUNT NOT SPECIFIED**

### **Explanation**

For the PGNAMES parameter a USERID= or ACCOUNT= keyword was expected and not found.

### **System action**

OMEGAMON® ignores the entire PGNAMES parameter group.

### **User response**

Check for a spelling error to ensure that either a USERID= or an ACCOUNT= keyword is specified.

## **OB7018: UNEXPECTED END-OF-FILE RECEIVED**

### **Explanation**

While processing a continuation, the end of the OVUSERcc DATA file was reached.

### **System action**

OVUSERcc parameter processing terminates.

### **User response**

Check to see if the OVUSER DATA file is complete. If not, enter the missing parameter keyword(s).

## **OB7019: NAME= KEYWORD MISSING**

### **Explanation**

The NAME keyword was not specified on the PGNAMES statement.

### **System action**

OMEGAMON® ignores the entry.

### **User response**

The PGNAMES statement requires a name for each group being defined. Specify a name.

## **OB7020: UNBALANCED OR INVALID USE OF PARENTHESES**

### **Explanation**

Either an unexpected parenthesis was detected or an expected parenthesis was not detected.

### **System action**

OMEGAMON® ignores either the current keyword or the remaining parameter keywords.

### **User response**

Add or remove parentheses as required.

## **OB7021: MAXIMUM 64 PERFORMANCE GROUP NAMES ALLOWED**

### **Explanation**

For the PGNAMES parameter group more than 64 performance groups were specified.

### **System action**

OMEGAMON® ignores the remaining performance groups.

**User response**

Remove less important performance groups so that the maximum will not be exceeded.

**OB7022: INVALID cccccc THRESHOLD GROUP KEYWORD****Explanation**

A keyword for the DEFVMTG, DASDTG, or RSCSTG parameter was entered that is not a valid exception override name.

**System action**

OMEGAMON® ignores the keyword.

**User response**

Check for a possible spelling error. For DEFVMTG, ensure that the exception name entered is a valid VM exception and not a SYSTEM exception. For DASDTG, ensure that the exception name entered is one of the DASD exceptions. For RSCSTG, ensure that the exception name entered is RSCA or RSCQ.

**OB7023: ON/OFF EXPECTED, ON ASSUMED****Explanation**

The indicated parameter must be specified as either ON or OFF.

**System action**

The keyword value defaults to ON.

**User response**

Correct the parameter value to specify ON or OFF.

**OB7024: EXPECTED PARENTHESIS NOT FOUND****Explanation**

A parenthesis was expected at or near the column indicated by an asterisk.

**System action**

OMEGAMON® ignores the current keyword.

**User response**

Check the format for the keyword and make the appropriate corrections.

**OB7025: EXPECTED ON OR AUTO, AUTO ASSUMED****Explanation**

The indicated parameter must be specified as either ON or AUTO.

**System action**

Missing VM analysis for this VM user ID defaults to AUTO.

**User response**

Correct the parameter value to specify ON or AUTO.

## **OB7026: THRESHOLD EXCEEDS THE MAXIMUM ALLOWED, MAXIMUM WILL BE USED**

### **Explanation**

The value specified for the THRESH= keyword is larger than the value allowed for an exception name.

### **System action**

OMEGAMON® uses the maximum value allowed.

### **User response**

Check the maximum value for this exception name and correct the keyword value.

## **OB7027: THRESHOLD LESS THAN MINIMUM ALLOWED, MINIMUM WILL BE USED**

### **Explanation**

The value specified for the THRESH= keyword is less than the value allowed for an exception name.

### **System action**

OMEGAMON® uses the minimum value allowed.

### **User response**

Check the minimum value for this exception name and correct the keyword value.

## **OB7028: EXPECTED TIME=, SS=, OR SL= KEYWORD NOT RECEIVED**

### **Explanation**

An invalid keyword was received for the TSF parameter group. The only valid keywords are TIME=, and either SS= or SL=.

### **System action**

OMEGAMON® ignores the remaining TSF keywords.

### **User response**

Check for possible spelling problems.

## **OB7029: BOX= KEYWORD INVALID FOR VM EXCEPTIONS. ENTER OK TO CONTINUE OR C TO CANCEL.**

### **Explanation**

The BOX= keyword was specified and is not valid for a VM exception.

### **System action**

OMEGAMON® ignores the BOX= keyword.

### **User response**

Reply OK or C, then remove the BOX= keyword from this exception.

## **OB7030: CHNM CPUID INVALID**

### **Explanation**

The value specified for the CPUID= keyword is invalid (must be between 0 and 15) for the CHNM parameter group.

### **System action**

OMEGAMON® skips the CPUID= keyword and subsequent CHANNELS= keywords.

### **User response**

Specify the correct CPU identification.

## **OB7031: CHNM CHANNEL NUMBER INVALID**

### **Explanation**

One of the values specified for the CHANNELS= keywords is invalid for the CHNM parameter group (must be between 0 and 31).

### **System action**

OMEGAMON® ignores the channel ID value.

### **User response**

Specify the correct channel ID.

## **OB7032: CPUID= KEYWORD MISSING**

### **Explanation**

The CPUID= keyword for the CHNM parameter group was expected and not received.

### **System action**

OMEGAMON® ignores the subsequent CHANNELS= parameter.

### **User response**

Check for spelling errors or enter a CPUID= keyword preceding the CHANNELS= keyword.

## **OB7033: CHANNELS= KEYWORD MISSING**

### **Explanation**

The CHANNELS= keyword for the CHNM parameter group was expected and not received.

### **System action**

OMEGAMON® ignores the current CPUID= value.

### **User response**

Check for spelling errors or enter a CHANNELS= keyword following the CPUID= keyword.

## **OB7036: DUPLICATE KEYWORD FOUND**

### **Explanation**

OMEGAMON® encountered a duplicate keyword in OVUSER.

**System action**

OMEGAMON® displays the message and asks if you wish to continue.

**User response**

Reply OK to continue processing and ignore the error or type C to cancel and correct the OVUSER file.

**OB7037: INCLUDE OR EXCLUDE NOT SPECIFIED****Explanation**

OMEGAMON® requires either an INCLUDE or EXCLUDE list to be specified with the FORCE parameter in OVUSER.

**System action**

OMEGAMON® displays the message and asks if you wish to continue.

**User response**

Reply OK to continue processing and ignore the error or type C to cancel and correct the OVUSER file.

**OB7038: FORCE PARAMETER VALID ONLY FOR VM EXCEPTIONS****Explanation**

OMEGAMON® encountered the FORCE parameter on an exception that is not VM user-related. Force processing is not valid for other than user-related exceptions.

**System action**

OMEGAMON® displays the message and asks if you wish to continue.

**User response**

Reply OK to continue processing and ignore the error or type C to cancel and correct the OVUSER file.

**OB7039: SCREEN SPACE NOT FOUND****Explanation**

The indicated screen space name (with filetype PROCFILE) was not found on any accessed CMS disk.

**System action**

The screen space name is accepted. The error message displays as a warning.

**User response**

Correct the screen space name or create a new screen space with this name.

**OB7040: TABLE WORK AREA OVERFLOW****Explanation**

An internal storage buffer overflowed processing the indicated parameter or keyword.I

**System action**

Processing terminates for the current parameter.

**User response**

Increase your virtual storage size or decrease the number of operands of this parameter.

## **OB7041: INTERNAL ERROR OBTAINING WORK BUFFERS**

### **Explanation**

An internal error occurred attempting to acquire storage.

### **System action**

OVUSERcc processing terminates.

### **User response**

Call IBM Software Support Services.

## **OB7042: KEYWORD DOES NOT APPLY TO THIS EXCEPTION**

### **Explanation**

The indicated keyword does not pertain to the current exception name being processed.

### **System action**

OMEGAMON® ignores the keyword.

### **User response**

Remove the keyword from this exception parameter.

## **OB7101: ERROR, COMMAND ARGUMENT UNKNOWN**

### **Explanation**

An invalid operand was given to the command.

### **System action**

The command terminates.

### **User response**

For the proper operands, see the extended help (;*commandname*) for the command. Correct the operand and retry.

## **OB7102: USER TABLE HAS BEEN DELETED**

### **Explanation**

OMEGAMON deleted the user table.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB7103: NAME NOT IN TABLE**

### **Explanation**

The requested name cannot be found in the tables.

**System action**

The command terminates.

**User response**

Correct the name and retry the command.

**OB7104: cccccccc HAS BEEN DELETED****Explanation**

The indicated memory location symbol was deleted from the symbolic address table.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB7105: cccccccc HAS BEEN ADDED TO THE TABLE****Explanation**

The indicated memory location symbol was added to the symbolic address table.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB7106: TABLE DOES NOT EXIST****Explanation**

No entries have been defined in the table.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB7107: WORKAREA OVERFLOW****Explanation**

The internal work area for string manipulation has overflowed.

**System action**

The command terminates.

**User response**

Use shorter strings to define the storage locations.

## **OB7108: PLPA MZAP CANNOT CROSS PAGE BOUNDARY**

### **Explanation**

The zap would cross a page boundary and this is not allowed.

### **System action**

Command terminates.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB7109: PLPA PAGES FIXED**

### **Explanation**

OMEGAMON fixed PLPA pages as requested.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB7110: MEMORY ZAP SUCCESSFUL**

### **Explanation**

OMEGAMON successfully executed the MZAP command.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB7111: VERIFY REJECT - MEMORY NOT ZAPPED**

### **Explanation**

The verify data in the command does not match the data in storage.

### **System action**

The command terminates.

### **User response**

Correct the data and retry.

## **OB7112: SCAN DATA NOT FOUND**

### **Explanation**

The requested data could not be found within the scan limits.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB7113: DYNAMIC ADDRESS NOT RESOLVED****Explanation**

A symbol in a dynamic address string could not be resolved.

**System action**

The command terminates.

**User response**

Correct the symbol and retry the command.

**OB7114: MODULE NOT AVAILABLE****Explanation**

An OMEGAMON module address was found to be 0, indicating that it is not available for this command.

**System action**

The command terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB7115: OMEGAMON NAME INVALID IN CROSS MEMORY****Explanation**

The cross memory commands are not allowed against this address space.

**System action**

The command terminates.

**User response**

Use the appropriate local commands.

**OB7117: INDIRECT ADDRESS IS 0****Explanation**

The address pointer value was 0 when an indirect request (? or %) was encountered while interpreting the address string.

**System action**

The command terminates.

**User response**

None. This is not necessarily an error.

## **OB7118: JOB NOT FOUND**

### **Explanation**

The requested address space or jobname cannot be found.

### **System action**

The command terminates.

### **User response**

Correct the name and retry.

## **OB7119: REGION DOES NOT BELONG TO CL/SUPPERSESSION and CL\GATEWAY**

### **Explanation**

A cross-memory zap was attempted on an unauthorized region.

### **System action**

The command terminates.

### **User response**

Make sure that the zap is being applied to the correct region.

## **OB7120: USE cccc FOR OMEGAMON PRIVATE AREA**

### **Explanation**

A cross memory command was used where a local command is appropriate.

### **System action**

The command terminates.

### **User response**

Use the local command format.

## **OB7121: ADDRESS IN COMMON AREA - USE cccc**

### **Explanation**

A cross memory command was used where a local command is appropriate.

### **System action**

The command terminates.

### **User response**

Use the local command format.

## **OB7122: GENERATED ADDRESS INVALID - xxxxxxxx**

### **Explanation**

The displayed address was developed while interpreting the address string. It is not valid for the named address space.

**System action**

The command terminates.

**User response**

Correct as necessary.

**OB7123: TARGET ADDRESS INVALID - xxxxxxxx****Explanation**

The displayed address was used to fetch data and is not a valid target address.

**System action**

The command terminates.

**User response**

Correct and retry.

**OB7125: VERIFY FAILED - ACTUAL CODE WAS: nn****Explanation**

The verify data does not match the storage data.

**System action**

The command terminates.

**User response**

Correct and retry.

**OB7126: INVALID RETURN CODE - cc = nn****Explanation**

The SRB that was scheduled returned an unknown code.

**System action**

The command terminates.

**User response**

Contact IBM Software Support.

**OB7127: {TARGET|INDIRECT} ADDRESS xxxxxxxx IS STORE PROTECTED****Explanation**

The target/indirect address xxxxxxxx is store-protected and should not be modified.

**System action**

The command terminates.

**User response**

Use the action character if APF-authorized and retry.

## **OB7128: {TARGET|INDIRECT} ADDRESS xxxxxxxx IS FETCH PROTECTED**

### **Explanation**

The target/indirect address xxxxxxxx is fetch-protected and cannot be read.

### **System action**

The command terminates.

### **User response**

Use the action character if APF-authorized and retry.

## **OB7129: {TARGET|INDIRECT} ADDRESS xxxxxxxx DOES NOT EXIST**

### **Explanation**

The target/indirect address xxxxxxxx cannot be located.

### **System action**

The command terminates.

### **User response**

Correct the address and retry.

## **OB7130: TRUNCATION HAS OCCURRED AT PAGE BOUNDARY**

### **Explanation**

The current display truncated because of an invalid address. The next page of storage is either undefined or fetch-protected.

### **System action**

The command terminates.

### **User response**

Correct the address or length and retry.

## **OB7131: SUBSTITUTION SYMBOL NOT DEFINED - ccccccc**

### **Explanation**

The MDEF command could not define the substitution symbol ccccccc. OMEGAMON cannot define a substitution symbol that begins with an ampersand (&).

### **System action**

The command terminates.

### **User response**

Replace the ampersand with another character and retry the MDEF command.

## **OB8110: NOT ENOUGH REGION FOR WORKAREA - nnnK MORE NEEDED**

### **Explanation**

The specified command could not obtain a work area.

**System action**

The command terminates.

**User response**

Increase the region size of the address space by a minimum of *nnnK*. Alternatively, use the WSIZ minor of PEEK or FNDU to decrease the work area size by *nnnK*.

**OB8111: WARNING - WSIZ TOO SMALL ADDR= xxxxxx, SIZE = yyyyyy, USED =zzzzzz. Refer to documentation for the .SET PEEKSIZE command.**

**Explanation**

The FNDU or PEEK SRB to collect data failed to complete its task because the data area it needed was too small.

**System action**

None.

**User response**

Use the WSIZ minor of FNDU or PEEK to increase the work area. Refer to the product-specific documentation for the .SET PEEKSIZE command.

**OB8112: DATA COLLECTION INITIATED****Explanation**

The command was issued with the action character, and OMEGAMON was collecting.

**System action**

None.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB8113: WARNING cccc FAILED VALIDITY CHECK****Explanation**

The SRB to collect data failed to complete its task because a control block does not contain valid data. The variable *cccc* is one of the following control blocks:

- ASCB
- DSAB
- JFCB
- JFCX
- TCB

**System action**

None.

**User response**

Re-enter the command. You may want to list the control block and verify its contents.

**OB8114: PEEK routine detected a possible loop while scanning a chain. Control block chain was *text*. Refer to documentation for the .SET LOOPCOUNT command.**

**Explanation**

The SRB to collect data failed to complete its task (possibly because the SRB is in a loop). *text* indicates which chain was being processed at the time of loop detection.

**System action**

None.

**User response**

Refer to the product-specific documentation for the .SET LOOPCOUNT command. If the problem persists, contact IBM Software Support.

**OB8115: WARNING - INVALID RETURN CODE - RC = *nn***

**Explanation**

The SRB routine returned a nonstandard code.

**System action**

The PEEK process terminates.

**User response**

If the error persists, contact IBM Software Support.

**OB8116: DANGER - INSUFFICIENT SQA, COMMAND ABORTED**

**Explanation**

There is insufficient SQA.

**System action**

The command aborts.

**User response**

Try the command later when more SQA is available.

**OB8117: INSUFFICIENT MEMORY FOR SRB SAVE AREA**

**Explanation**

There is insufficient memory for the save area.

**System action**

The command terminates.

**User response**

Try the command later when there is more memory available.

## **OB8118: SRBD - SRB FAILED DURING INITIALIZATION**

### **Explanation**

The SRB failed during initialization.

### **System action**

The command terminates.

### **User response**

Contact IBM Software Support.

## **OB8121: CHANNEL SET NOT DEFINED**

### **Explanation**

The user requested an invalid channel set.

### **System action**

Command processing terminates.

### **User response**

Correct command parameters and retry.

## **OB8130: COMMAND TEXT IS TOO LONG**

### **Explanation**

The command text can be a maximum of 126 characters.

### **System action**

The command is not executed.

### **User response**

Specify the command text so that it is no more than 126 characters.

## **OB8131: INVALID CHARACTER AFTER SYSTEM NAME**

### **Explanation**

The system name was not followed by a blank space or by a comma.

### **System action**

The command is not executed.

### **User response**

Supply a system name followed by a blank space or a comma.

## **OB8132: SYSTEM NAME IS TOO LONG, MUST BE 1–8 CHARS**

### **Explanation**

System names must be from 1–8 characters in length.

### **System action**

The command is not executed.

**User response**

Supply a valid system name.

**OB8202: CPU NOT DEFINED****Explanation**

The CPU is not defined in the PCCA.

**System action**

None.

**User response**

Specify a CPU that is defined to your system (see the IBM® OS/VS2 System Programming Library or MVS/Extended Architecture Debugging Handbooks for a CPU definition).

**OB8203: NO CHANNEL AVAILABILITY TABLE****Explanation**

The specified channel does not exist.

**System action**

None.

**User response**

Specify a channel number that exists on the system.

**OB8204: LINK ERROR, CODE = {8|12}****Explanation**

The external routine for GDEV encountered a link error.

**System action**

The command terminates.

**User response**

Contact IBM Software Support.

**OB8205: INVALID INPUT - *aaaaaaaaaaaaaaaa*****Explanation**

An invalid device class was entered as input to the GLST command.

**System action**

The GLST command is terminated.

**User response**

Correct the invalid input parameter. The help text for the GLST command displays the valid input parameters.

## **OB8206: PROCESSING ERROR, DEVICE CLASS *aaaa*, RC=*nn***

### **Explanation**

The EDTINFO interface routine used by the GLST command returned with a non-zero return code, *nn*, processing device class *aaaa*.

### **System action**

Processing continues, but that device class will not be displayed.

### **User response**

Contact IBM Software Support.

## **OB8207: SUBSYSTEM RETURN CODE *aaaaaaaa bbbbbbbb cccccc ddddddd***

### **Explanation**

A call to the Candle® Subsystem has resulted in a non-zero return code during execution of the GDEV command.

#### **aaaaaaaa**

Identifies the Subsystem return code.

#### **bbbbbbbb**

Identifies the function return code.

#### **ccccccc**

Identifies the subroutine invocation return code.

#### **ddddddd**

Identifies the subroutine invocation reason code.

### **System action**

The GDEV command continues to process, however, there will be no data for devices defined as dynamic.

### **User response**

Contact IBM Software Support.

## **OB8208: CN SUBSYSTEM NOT INITIALIZED**

### **Explanation**

A contact to the Candle® Subsystem cannot be made because the Candle® Subsystem has not been initialized by this OMEGAMON session.

### **System action**

The GDEV command continues to process, however, there will be no data for devices defined as dynamic.

### **User response**

Check to see that the Candle® Subsystem is running on the system. If it is not running, start it. If it is running, contact IBM Software Support.

## **OB8209: UCB INFORMATION UNAVAIABLE. RC=*xxxxxxxx yyyyyyyy zzzzzzz***

### **Explanation**

A call to internal OMEGAMON service to obtain UCB information resulted in a non-zero return code.

#### **xxxxxxxx**

Register 15 contains the return code.

yyyyyyyy

Register 0 contains the reason code.

zzzzzzzz

Register 1 contains the associated reason code.

**System action**

The OMEGAMON command is terminated.

**User response**

Contact IBM Software Support.

**OB8277: SYNTAX ERROR NEAR COLUMN FLAGGED ABOVE**

**Explanation**

A syntax error was found in the input command line. An asterisk (\*) marks the start of the invalid field.

**System action**

None.

**User response**

Verify the command syntax, correct the input as needed, and retry the command.

**OB8280: CONSOLE NOT FOUND**

**Explanation**

The console ID or device address specified located a type of device other than a console.

**System action**

None.

**User response**

Specify a valid console ID or device address.

**OB8281: HARDCOPY DEVICE**

**Explanation**

The console specified in the CONS command is a hardcopy device and therefore cannot be monitored.

**System action**

The command terminates.

**User response**

Select a non-hardcopy device to monitor.

**OB8282: INVALID CONSOLE NAME, MUST BE 2-8 CHARS**

**Explanation**

Console names must be from 2-8 characters. The first character must be A-Z, @, #, or \$, and subsequent characters must be A-Z, @, #, \$, or 0-9.

**System action**

The command is not executed.

**User response**

Supply a valid console name or console ID number.

**OB8283: INVALID CONSOLE ID NUMBER, MUST BE 1–99****Explanation**

Console ID numbers must be from 1–99.

**System action**

The command is not executed.

**User response**

Supply a valid console ID number or console name.

**OB8284: MISSING CONSOLE VALUE****Explanation**

Either a console name or console ID number must be supplied after the CONS= keyword.

**System action**

The command is not executed.

**User response**

Supply a valid console name or console ID number.

**OB8285: INVALID CHARACTER AFTER CONSOLE VALUE****Explanation**

The console name or console ID number was not followed by a blank space or by a comma.

**System action**

The command is not executed.

**User response**

Supply a valid console name or console ID number, followed by a blank space or a comma.

**OB8286: CONSOLE DOES NOT EXIST OR IS INACTIVE****Explanation**

The console specified is not defined to the operating system, or is defined but not active.

**System action**

The command is not executed.

**User response**

Supply a valid console name or console ID number.

## **OB8287: INCREASE GDEV UCB SLOTS TO MORE THAN *nnnnn***

### **Explanation**

OMEGAMON needs more than *nnnnn* slots for GDEV command UCBs.

### **System action**

The command terminates.

### **User response**

Increase the number of slots to more than *nnnnn*.

## **OB8288: NO ONLINE DEVICES FOUND WITH THIS GENERIC**

### **Explanation**

No online devices match the generic name specified.

### **System action**

The command terminates.

### **User response**

Try another generic name.

## **OB8289: DLIST OFFSET GREATER THAN DLIST TABLE**

### **Explanation**

The DLIST offset calculation is greater than that allowed in the DLIST table.

### **System action**

The command terminates.

### **User response**

Contact IBM Software Support.

## **OB8290: NO GENERIC DEVICE NAME SUPPLIED**

### **Explanation**

A generic device name was expected.

### **System action**

The command terminates.

### **User response**

Enter a generic device name. Use the GLST device major command to list valid generic names for your site.

## **OB8291: NO GENERIC DEVICES DEFINED FOR THIS NAME**

### **Explanation**

No devices were defined for the generic name specified.

### **System action**

The command terminates.

**User response**

Enter a different generic device name.

**OB8292: GENERIC DEVICE NAME TOO LONG****Explanation**

A generic device name must be 8 characters or less.

**System action**

The command terminates.

**User response**

Enter a valid device name with 8 characters or less.

**OB8293: NO MATCH FOUND FOR THIS GENERIC NAME****Explanation**

The generic device name specified is not defined at your installation.

**System action**

The command terminates.

**User response**

Use the GLST device major command to list all defined generic device names.

**OB8294: IGNORED - DEVICE NOT ALLOCATED, ONLINE DASD OR TAPE****Explanation**

An attempt was made to deallocate a device that was either offline or was not a disk/tape.

**System action**

None.

**User response**

Specify an online disk or tape.

**OB8295: IGNORED - DEVICE IS PERMANENTLY RESIDENT****Explanation**

An attempt was made to deallocate a permanently resident volume.

**System action**

None.

**User response**

Specify a volume that is not permanently resident.

**OB8296: IGNORED - DEVICE NOT PERMANENTLY RESIDENT****Explanation**

An attempt was made to mark a device reserved that was not permanently resident.

**System action**

None.

**User response**

Specify a volume that is permanently resident.

**OB8310: JOB NOT FOUND****Explanation**

The requested jobname could not be found in the queue of currently running jobs.

**System action**

The PEEK command is suppressed.

**User response**

Correct the jobname.

**OB8312: "PEEK" COMMAND NOT SUCCESSFULLY EXECUTED****Explanation**

An error prevented the PEEK command from executing.

**System action**

The PEEK command is suppressed.

**User response**

Observe prior error messages and take appropriate action.

**OB8313: NO cccc INFORMATION AVAILABLE FOR \*MASTER\* ADDRESS SPACE****Explanation**

The control blocks necessary to map virtual storage for the \*MASTER\* address space using the cccc minor of PEEK are incomplete or absent.

**System action**

The command terminates.

**User response**

None. These commands are not supported for the \*MASTER\* address space.

**OB8320: RETURN FETCH DELAYED****Explanation**

The return was delayed due to a cycle count in the command label.

**System action**

The command continues normally.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB8321: RETURN FETCH PENDING**

### **Explanation**

A return is scheduled for the next cycle.

### **System action**

None.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB8322: PROCFILE DD STATEMENT MISSING**

### **Explanation**

The indicated DD statement is missing from the job's JCL.

### **System action**

The command terminates.

### **User response**

Add the statement and restart OMEGAMON.

## **OB8323: NOT IN AUTOMATIC MODE - RETURN IGNORED**

### **Explanation**

The command is valid only in automatic mode.

### **System action**

The command terminates without taking action.

### **User response**

Correct the command or use only in automatic mode.

## **OB8324: NO TARGET SCREEN SPACE**

### **Explanation**

The target screen space name is missing.

### **System action**

The command terminates.

### **User response**

Supply a correct name and retry the command.

## **OB8325: ENTRY DOES NOT EXIST - MUST BE ADDED TO KOBICUSERcc**

### **Explanation**

A search of the currently active KOBICUSER module failed to find the required entry.

**System action**

The command terminates.

**User response**

Check the name and verify the libraries.

**OB8326: SCREEN SPACE cccccccc NOT FOUND****Explanation**

The specified screen space name was not in KOBICSPROC. Either it is missing or the name is incorrect.

**System action**

The command terminates.

**User response**

Correct the screen space name and verify the libraries. Retry the command.

**OB8327: INVALID VALUE ccccc FOR KEYWORD aaaaaa SPECIFIED, INPUT IGNORED****Explanation**

The value ccccc supplied for keyword aaaaaa is not valid.

**System action**

OMEGAMON ignores the invalid input and continues processing.

**User response**

Correct the keyword value and retry the command.

**OB8501: XLF/TSF FUNCTIONS DISABLED****Explanation**

The XLF/TSF functions are not available with this level of OMEGAMON.

**System action**

The associated commands are inoperative.

**User response**

Use a level of OMEGAMON that has these functions.

**OB8551: LOG RESET REQUIRED. USE .XLFOUT.****Explanation**

Changes made to the log file require that it be reset.

**System action**

The command continues.

**User response**

To activate the new parameters, reset the log as indicated.

## **OB8601: LOG RESET FAILED. INVALID cccccccc FIELD.**

### **Explanation**

The log reset failed because of the invalid field.

### **System action**

The log is not available.

### **User response**

Look up dynamic allocation in the appropriate IBM® manual and retry the reset command.

## **OB8602: LOG RESET FAILED. CODE cccccccc,nnnn,xxxx**

### **Explanation**

The log reset failed because of a bad return code from the dynamic allocation routine. The variable *ccccccc* is a return code. The variable *nnnn* is an error code. The variable *xxxx* is an error reason code.

### **System action**

The log is not available.

### **User response**

Look up the dynamic allocation return code in the appropriate IBM® manual and retry the reset command.

## **OB8603: DDNAME NOT AVAILABLE. SYSOUT USED**

### **Explanation**

The ddname specified is not allocated or is in use by another session.

### **System action**

The system used SYSOUT.

### **User response**

If the ddname is not being used by another session, correct the spelling or allocate the intended ddname and retry the reset command. If it is in use by another session, use another ddname, wait for the other session to be done, or accept the system use of SYSOUT.

## **OB8604: LINE COUNT MUST BE NUMERIC**

### **Explanation**

An attempt was made to enter a non-numeric line count.

### **System action**

The command terminates.

### **User response**

Correct the line count value and reissue the command.

## **OB8605: LINE COUNT GREATER THAN 255**

### **Explanation**

An attempt was made to enter a line count greater than the maximum of 255.

**System action**

The command terminates.

**User response**

Correct the line count value and reissue the command.

**OB9001: BAD OPEN ON CONTROL STATEMENT FILE (SYSIN)****Explanation**

This is probably the result of a missing SYSIN DD statement in the JCL.

**System action**

The update terminates. OMEGAMON does not process any updates.

**User response**

Include a SYSIN DD statement in the job's JCL and resubmit the job.

**OB9003: BLANK CARD - IGNORED****Explanation**

OMEGAMON encountered a blank card in the input stream.

**System action**

OMEGAMON ignores the blank card and continues the edit and update.

**User response**

Remove the blank record from control record input. Verify that the record was intentionally blank.

**OB9004: INVALID CONTROL STATEMENT FORMAT****Explanation**

The syntax or the spelling of the control statement was incorrect.

**System action**

OMEGAMON ignores the control statement and continues the edit and update.

**User response**

Correct the syntax or spelling and resubmit the statement.

**OB9005: INVALID LEVEL NUMBER SPECIFIED. PASSWORD IGNORED****Explanation**

OMEGAMON allows only level number 1, 2, or 3 as valid level numbers for passwords.

**System action**

OMEGAMON ignores the control statement and continues the edit and update.

**User response**

Correct the level number and resubmit the statement.

## **OB9006: INVALID LEVEL NUMBER. DEFAULT OF 0 ASSIGNED**

### **Explanation**

You specified an invalid level number for a command. Valid level numbers are 0, 1, 2, or 3.

### **System action**

OMEGAMON assigns a default level of 0 to the command in question. OMEGAMON continues the edit and update.

### **User response**

Correct the level number in the control statement and resubmit it if it is other than 0.

## **OB9007: INVALID KEYWORD SPECIFIED**

### **Explanation**

The keyword specified does not exist or is not valid on this statement. (For example, VOLUME= is invalid on a COMMAND statement, and LEVEL= is invalid on an AUTHLIB statement.)

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Verify the keywords on the control statement to make sure that they belong together. When you find the error, correct it and resubmit the new control statements.

## **OB9008: LEVEL KEYWORD MUST BE SPECIFIED WITH PASSWORD. PASSWORD IGNORED**

### **Explanation**

OMEGAMON did not find the LEVEL= keyword. The PASSWORD statement requires a LEVEL= parameter to specify the password level.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Add a LEVEL= keyword to all PASSWORD= statements and resubmit the job.

## **OB9009: INVALID COMMAND LENGTH. INFO-LINE COMMANDS MUST BE 1 THROUGH 8 CHARACTERS PLUS A SLASH**

### **Explanation**

The security installation utility detected an INFO-line command that was longer than eight characters, not including the slash (/).

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Correct the command name and resubmit it.

## **OB9010: INVALID EXTERNAL VALUE SPECIFIED. DEFAULT OF NO ASSIGNED**

### **Explanation**

The security installation utility detected an invalid value for the EXTERNAL= keyword.

### **System action**

OMEGAMON assumes EXTERNAL=NO on this statement and continues the edit and update.

### **User response**

Correct the value of the EXTERNAL keyword, and resubmit the statement.

## **OB9011: INTERNAL ERROR IN MESSAGE PROCESSING ROUTINE. NOTIFY CANDLE CORPORATION**

### **Explanation**

OMEGAMON encountered an error in the message processing routine.

### **System action**

The job terminates.

### **User response**

Record any console messages and contact IBM Software Support.

## **OB9012: PASSWORD IS OF AN INVALID LENGTH. MUST BE BETWEEN 1 AND 8 CHARACTERS**

### **Explanation**

The security installation utility detected a password that is not 1–8 characters long.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Correct the length of the password and resubmit the statement.

## **OB9013: IMPROPER LENGTH FOR DSNAME**

### **Explanation**

The security installation utility detected a data set name of improper length. The data set name for the AUTHLIB keyword must follow the standard rules for data set names (no imbedded blanks or special characters, and 44 or less characters in length).

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Correct the data set name and resubmit the statement.

## **OB9014: MAJOR AND MINOR COMMANDS MUST BE 3 TO 4 CHARACTERS LONG. STATEMENT IGNORED**

### **Explanation**

The security installation utility detected a major or minor command that was not 3–4 characters long.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Correct the major or minor command name and resubmit it.

## **OB9015: AUTHLIB ALREADY SPECIFIED. STATEMENT IGNORED**

### **Explanation**

The security installation utility detected more than one AUTHLIB statement in this run. OMEGAMON only allows one AUTHLIB statement per update run.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Make sure that the AUTHLIB statements OMEGAMON found did not have conflicting information. Remove extra AUTHLIB statements and resubmit if necessary.

## **OB9016: PASSWORD FOR THIS LEVEL NUMBER ALREADY SPECIFIED. THIS PASSWORD IGNORED**

### **Explanation**

You can only specify one password for a specific level number.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Make sure that you specified the correct level number for this password. Correct and resubmit if necessary.

## **OB9017: INTERNAL ERROR DETECTED IN UPDATE PROCESS. CONTACT IBM® CORP.**

### **Explanation**

OMEGAMON encountered an error in the security update program.

### **System action**

The job terminates.

### **User response**

Contact IBM Software Support.

## **OB9018: COMMAND NOT DEFINED**

### **Explanation**

You specified an invalid major, minor, or INFO-line command name, or a command not supported under this operating system (for example, an XA command under a 370 system).

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Check for spelling errors. Correct the command and resubmit it.

## **OB9019: \*\*\* WARNING \*\*\* - UPDATE CANCELLED**

### **Explanation**

This is usually the result of processing the UPDATE=NO control statement. The message appears after the end of the control statement input. If you specified LIST=YES, the listing reflects the contents of the security file as if the changes have already taken place.

### **System action**

OMEGAMON cancels the update.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB9020: INVALID VOLUME SERIAL NUMBER FORMAT**

### **Explanation**

OMEGAMON found an invalid volume serial number. A valid volume serial number or the characters NOVOLUME are the only values OMEGAMON allows.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Correct the volume serial number and resubmit the statement.

## **OB9021: INVALID VALUE SPECIFIED FOR AUDIT KEYWORD. MUST BE "YES" OR "NO"**

### **Explanation**

The security installation utility detected an invalid value for the AUDIT keyword. The AUDIT keyword only accepts the values YES or NO.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Resubmit the statement specifying a valid value for the AUDIT= keyword.

## **OB9022: WARNING—INVALID LEVEL NUMBER FOUND IN COMMAND TABLE FOR THIS COMMAND**

### **Explanation**

Security update was attempted on an OMEGAMON version that does not support external security.

### **System action**

The job terminates.

### **User response**

Verify that you are using a current level of OMEGAMON.

## **OB9023: INTERNAL ERROR IN LIST ROUTINE. CONTACT IBM® CORPORATION**

### **Explanation**

OMEGAMON encountered an error in the security update program.

### **System action**

The job terminates.

### **User response**

Contact IBM Software Support.

## **OB9024: MULTIPLE UPDATE STATEMENTS ENCOUNTERED. UPDATE CANCELLED**

### **Explanation**

The security update utility found more than one update control statement in this run. OMEGAMON only allows one UPDATE= statement per run.

### **System action**

OMEGAMON continues the edit but cancels the update.

### **User response**

Remove the extra update statements from the control statement input.

## **OB9025: INVALID KEYWORD VALUE. ACCEPTABLE VALUES ARE “YES” OR “NO”**

### **Explanation**

OMEGAMON received an invalid value for a specified keyword. OMEGAMON only accepts the values YES or NO.

### **System action**

OMEGAMON ignores the control statement and continues the edit and update.

### **User response**

Correct the keyword value and resubmit the statement.

## **OB9026: “LIST” STATEMENT ALREADY SPECIFIED. STATEMENT IGNORED**

### **Explanation**

The security update utility found more than one LIST statement in this run.

**System action**

OMEGAMON ignores the control statement and continues the edit and update.

**User response**

Remove the extra LIST= statements from the control statement input.

**OB9027: ALIASES OF INFO-LINE (SLASH) COMMANDS CANNOT BE UPDATED.  
ACTUAL COMMAND NAME MUST BE SPECIFIED****Explanation**

When you protect an INFO-line command, OMEGAMON also protects its aliases. You cannot protect only an alias. The security file listing identifies the aliases.

**System action**

OMEGAMON ignores the control statement and continues the edit and update.

**User response**

Resubmit with the actual command name.

**OB9028: INTERNAL ERROR DETECTED IN INFO-LINE COMMAND TABLE  
SEARCH. CONTACT IBM® CORP.****Explanation**

OMEGAMON encountered an error in the security update program.

**System action**

The job terminates.

**User response**

Contact IBM Software Support.

**OB9029: "VOL=" KEYWORD MUST BE SPECIFIED FOR AUTHLIB. ENTER  
"VOL=NOVOLUME" IF NO VOLUME SERIAL NUMBER IS TO BE USED****Explanation**

OMEGAMON found no keyword for VOL=.

**System action**

OMEGAMON ignores the control statement and continues the edit and update.

**User response**

Resubmit with a volume serial number or VOL=NOVOLUME if you do not want OMEGAMON to perform volume serial number checking.

**OB9030: COMMAND TABLE IS INVALID. SECURITY UPDATE PROGRAM  
TERMINATED****Explanation**

A security update was attempted on an OMEGAMON version that does not support external security.

**System action**

The job terminates.

**User response**

Verify that you are using a current level of OMEGAMON.

**OB9031: RESET KEYWORD VALUE MUST END WITH A BLANK****Explanation**

A nonblank character terminated the reset operand.

**System action**

OMEGAMON suppresses the operation.

**User response**

Correct the command and retry.

**OB9032: UNKNOWN RESET KEYWORD VALUE****Explanation**

The reset keyword operand is not valid.

**System action**

OMEGAMON suppresses the operation.

**User response**

Correct the keyword value and retry.

**OB9033: MAJOR COMMAND TABLES WILL BE RESET****Explanation**

The security level, audit, and external switches will be cleared for all major and immediate commands. These commands will be unprotected unless you specify new settings and rerun the update program.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB9034: MINOR COMMAND TABLES WILL BE RESET****Explanation**

The security level, audit, and external switches will be cleared for all minor commands. These commands will be unprotected unless you specify new settings and rerun the update program.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB9035: INFO-LINE COMMANDS WILL BE RESET****Explanation**

The security level, audit, and external switches will be cleared for all INFO-line commands. These commands will be unprotected unless you specify new settings and rerun the update program.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB9036: PASSWORDS AND AUTHLIB WILL BE RESET****Explanation**

The passwords and the authorized data set will be cleared.

**System action**

Processing continues.

**User response**

Specify new settings and rerun the update program to reset these fields.

**OB9037: ONLY SECURITY LEVEL 0 ALLOWED FOR /PWD LEVEL 0 ASSIGNED****Explanation**

OMEGAMON allows a security level 0 only for the /PWD INFO-line command.

**System action**

OMEGAMON assigns security level 0.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB9038: INVALID SMF RECORD NUMBER SPECIFIED****Explanation**

Installer specified an invalid parameter for the SMFNUM control statement. Valid SMF record numbers are 128 through 255.

**System action**

The security update program ignored the statement.

**User response**

Correct the SMF record number to a number between 128 and 255 and resubmit.

### **OB9039: SMFNUM ALREADY SPECIFIED. STATEMENT IGNORED.**

#### **Explanation**

Installer specified the SMFNUM parameter in the security update program more than once.

#### **System action**

The security update program ignored the statement.

#### **User response**

Submit a new SMFNUM statement.

### **OB9040: MODULE ALREADY SPECIFIED. STATEMENT IGNORED.**

#### **Explanation**

Installer specified the MODULE parameter in the security update program more than once.

#### **System action**

The security update program ignored the statement.

#### **User response**

Submit a new MODULE statement.

### **OB9041: MODULE LENGTH IS INVALID; MUST BE BETWEEN 1 AND 8 CHARACTERS**

#### **Explanation**

The security installation utility detected a name specified for the MODULE control statement that was not 1–8 characters.

#### **System action**

The security update program ignored the statement.

#### **User response**

Submit a new MODULE statement.

### **OB9042: PASSWORD SPECIFICATION WILL BE RESET**

#### **Explanation**

The installer executed the security update program to reset the indicated password.

#### **System action**

The security update program will reset the password.

#### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **OB9043: SMF RECORD NUMBER SPECIFICATION WILL BE RESET**

#### **Explanation**

Installer executed security update program to reset the indicated SMF record number.

**System action**

The security update program will reset the SMF record number.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OB9044: EXTERNAL SECURITY MODULE NAME SPECIFICATION WILL BE RESET****Explanation**

The installer executed the security update program to clear the indicated module name. The external security exit routine will not be accessible unless you specify a new setting and rerun the security update program.

**System action**

The security update program will clear the name.

**User response**

If you want to use external security specify a valid module name for the security exit and rerun the security update program.

**OB9045: \*\*\*WARNING\*\*\* - UPDATE DENIED BY CONSOLE OPERATOR****Explanation**

This message appears on the security update report. The console operator replied NO to a request to update the security tables, so the request was denied.

**System action**

The update is cancelled.

**User response**

If appropriate, provide information on authorization to the console operator.

**OB9089: UPDATE OF OMEGAMON SECURITY TABLES HAS BEEN REQUESTED BY  
*jobname*****Explanation**

This message appears on the operator console to advise the operator that a job is attempting to update the security tables.

**System action**

None.

**User response**

None.

**OB9090: REPLY "Y" TO ALLOW OR "N" TO DISALLOW UPDATE PROCESSING****Explanation**

This message appears on the operator console following message OB9089. It prompts the operator to allow or disallow updating.

**System action**

The update job waits for the operator's reply.

**User response**

Respond Y or N.

**OB9144: OBSELR00 CALLED TO READ cccccccc****Explanation**

This is an informational message returned from running the security update program. The variable ccccccc is the security table.

**System action**

The security update program completes.

**User response**

None.

**OB9145: OBSELW00 CALLED TO WRITE cccccccc****Explanation**

This is an informational message returned from running the security update program. The variable ccccccc is the security table.

**System action**

The security update program continues processing.

**User response**

None.

**OB9146: LOAD MODULE TEXT SUCCESSFULLY READ****Explanation**

This is an informational message returned from running the security update program.

**System action**

The security update program continues processing.

**User response**

None.

**OB9147: LOAD MODULE TEXT SUCCESSFULLY UPDATED****Explanation**

This is an informational message returned from running the security update program. Message OB9158 accompanies this message.

**System action**

The security update program completes.

**User response**

None.

## **OB9148: SYSLIB DCB {OPENED|CLOSED} SUCCESSFULLY**

### **Explanation**

This is an informational message returned from running the security update program.

### **System action**

Security update program continues processing.

### **User response**

None.

## **OB9149: LIBRARY DSNAME IS: cccccccc**

### **Explanation**

This is an informational message returned from running the security update program. It provides the library data set name *ccccccc*.

### **System action**

Security update program continues processing.

### **User response**

None.

## **OB9150: SYSLIB DCB CLOSED**

### **Explanation**

This is an informational message returned from running the security update program.

### **System action**

The security update program completes.

### **User response**

None.

## **OB9151: SYSLIB DCB FAILED TO OPEN**

### **Explanation**

OMEGAMON encountered an error opening the data set specified in the SYSLIB DD statement.

### **System action**

The job terminates.

### **User response**

Verify that the SYSLIB DD statement specifies a valid and correctly spelled data set.

## **OB9152: SYNADAF ERROR MESSAGE**

### **Explanation**

An error occurred during a read/write of a file by the security update program.

**System action**

The job terminates.

**User response**

Contact IBM Software Support.

**OB9153: BLDL MACRO FAILED WITH RETURN CODE *nnnn/nnnn*****Explanation**

OMEGAMON cannot find the command table. The variable *nnnn/nnnn* is an IBM® return code.

**System action**

The job terminates.

**User response**

Verify that the job specifies the correct load library.

**OB9154: FIND MACRO FAILED WITH RETURN CODE *nnnn/nnnn*****Explanation**

OMEGAMON cannot find the command table. The variable *nnnn/nnnn* is an IBM® return code.

**System action**

The job terminates.

**User response**

Verify that the job specifies the correct load library.

**OB9155: TEXT READ OVERFLOWS DIRECTORY SIZE INDICATION****Explanation**

An error occurred during the security update program's processing.

**System action**

The job terminates.

**User response**

Contact IBM Software Support.

**OB9156: UNEXPECTED END-OF-FILE WHILE READING *cccccccc*****Explanation**

An error occurred during the security update program's processing.

**System action**

The job terminates.

**User response**

Contact IBM Software Support.

## **OB9157: RDJFCB MACRO FAILED WITH RETURN CODE *nnnn***

### **Explanation**

An error occurred during the security update program's processing.

### **System action**

The job terminates.

### **User response**

Contact IBM Software Support.

## **OB9158: LOAD MODULE ID: *cccccccc***

### **Explanation**

This message accompanies OB9146. The list that follows contains information on:

- An internal module name
- An internal version identifier
- An internal date and time stamp

### **System action**

The security update processing completes.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OB9261: KOB SUPDT BEGUN**

### **Explanation**

This is an informational message generated at the start of the security update program.

### **System action**

The security update program continues processing.

### **User response**

None.

## **OB9262: LOAD MODULE *cccccc* RETURN CODE IS *nnnn***

### **Explanation**

The variable *cccccc* is READ, UPDATE, or REWRITE. This is an informational message returned from running the security update program.

### **System action**

The security update program continues processing.

### **User response**

If return code *nnnn* is other than 0, contact IBM Software Support.

## **OB9263: KOBSUPDT LISTING FILE FAILED TO OPEN**

### **Explanation**

The attributes of the SYSPRINT file are wrong.

### **System action**

The job terminates.

### **User response**

Verify that the file is a SYSOUT data set, or that the file has the following attributes: RECFM=FBA, LRECL=133, DSORG=PS, and BLKSIZE is a multiple of 133.

## **OB9269: KOBSUPDT ENDED**

### **Explanation**

This is an informational message returned from running the security update program.

### **System action**

The security update program completes.

### **User response**

None.

## **OBV101: VTPRELOG MODULE ENTERED**

### **Explanation**

This message is issued after the VTM1WK workarea is initialized.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV102: USER INIT EXIT BEING CALLED**

### **Explanation**

This message is issued before the exit is called.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV103: USER INIT EXIT NOT BEING CALLED**

### **Explanation**

The initiation exit is optional. This message indicates that the user did not supply the exit.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV104: OPEN ACB BEING ISSUED****Explanation**

VTM1 must open an ACB that points to an applid. This message is issued before every attempt to open an ACB.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV105: OPEN ACB SUCCESSFUL, NOW ISSUE SETLOGON****Explanation**

This message is issued before the VTAM® SETLOGON instruction.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV106: SETLOGON SUCCESSFUL, NOW ISSUE REQSESS****Explanation**

This message is issued before the VTAM® REQSESS instruction.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV107: REQSESS SUCCESSFUL, NOW ISSUE STIMER****Explanation**

This message is issued before the MVS™ STIMER instruction.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV108: STIMER SUCCESSFUL, NOW ISSUE WAIT****Explanation**

This message is issued before the MVS™ WAIT instruction. VTM1 will wait for one of two ECBs to be posted. This will either be the STIMER ECB (from STIMER) or SCIP exit ECB (from REQSESS).

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV109: WAIT POPPED, BRANCH TO VTENVIR****Explanation**

One of the two ECBs named in OBV108 has been posted. VTM1 branches to module VTENVIR.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV110: MODULE VTENVIR ENTERED****Explanation**

This message is issued upon entry to module VTENVIR.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV111: SCIP ECB POSTED****Explanation**

The VTAM® SCIP exit was scheduled due to the receipt of an SC RU. It posted the SCIP ECB.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV112: BIND RECEIVED FROM PLU**

### **Explanation**

The BIND RU was received by the VTAM® SCIP exit. A previous REQSESS macro resulted in this BIND.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV113: MODULE VTCOMM ENTERED**

### **Explanation**

This message is issued upon entry to module VTCOMM.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV114: UNBIND DETECTED**

### **Explanation**

The UNBIND RU was received by the VTAM® SCIP exit.

### **System action**

Processing terminates.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV115: CALLING ROUTINE TO CREATE RPL FOR RECEIVE**

### **Explanation**

The VTAM® GENCB macro is being issued to create an RPL which a later RECEIVE macro will use.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV116: RECEIVE ISSUED AND COMPLETE**

### **Explanation**

The VTAM® RECEIVE macro has completed.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV117: UNBIND DETECTED****Explanation**

The UNBIND RU was received by the VTAM® SCIP exit.

**System action**

Processing terminates.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV118: SENT DEFINITE RESPONSE****Explanation**

The VTAM® SEND macro, used to send a definite response, has completed. The return code from the SEND has not yet been checked.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV119: CALLING USER PUT EXIT****Explanation**

This message is issued just before the user exit is called.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV120: CALLING USER GET EXIT****Explanation**

This message is issued just before the user exit is called.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV121: CALLING ROUTINE TO CREATE RPL FOR SEND****Explanation**

The VTAM® GENCB macro is being issued to create a RPL which a later SEND macro will use.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV122: CALLING ROUTINE TO ISSUE SEND****Explanation**

This message is issued before the VTAM® SEND instruction is executed.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV123: MODULE VTTERM ENTERED****Explanation**

Issued upon entry to module VTTERM.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV124: CALLING USER TERM EXIT****Explanation**

This message is issued just before the user exit is called.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV125: VTAM® LOSTTERM EXIT ENTERED FOR VTM1**

### **Explanation**

This message is issued upon entry to the VTAM® LOSTTERM exit for VTM1.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV126: VTAM® TPEND EXIT ENTERED FOR VTM1**

### **Explanation**

This message is issued upon entry to the VTAM® TPEND exit for VTM1.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV127: VTAM® SCIP EXIT ENTERED FOR VTM1**

### **Explanation**

This message is issued upon entry to the VTAM® SCIP exit for VTM1.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV128: VTSCIP RECEIVES UNBIND REQUEST**

### **Explanation**

The VTAM® SCIP exit for VTM1 received an UNBIND request.

### **System action**

Processing continues.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OBV129: VTSCIP RECEIVES BIND REQUEST**

### **Explanation**

The VTAM® SCIP exit for VTM1 received a BIND request.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV130: RECEIVED FIRST SDT REQUEST****Explanation**

The VTAM® SCIP exit for VTM1 received its first Start Data Traffic request.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV131: RECEIVED SECOND SDT REQUEST****Explanation**

The VTAM® SCIP exit for VTM1 received its second Start Data Traffic request.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV132: RECEIVED CLEAR REQUEST****Explanation**

The VTAM® SCIP exit for VTM1 received a CLEAR request.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV133: VTSCIP POSTING ECB****Explanation**

The VTAM® SCIP exit for VTM1 posted its ECB to notify the mainline VTM1 code.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV134: MVS™ STIMER EXIT ENTERED FOR VTM1****Explanation**

The MVS™ STIMER issued previously has popped, and its exit is being driven.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV135: VTM1 USER *ccccccc* LOGGING ON TO *aaaaaaaa*****Explanation**

This message is issued via WTO after a user logs onto a VTAM® application through VTM1. The fields *ccccccc* and *aaaaaaaa* are filled in with the user ID and system name of the PLU, respectively.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV136: VTLOGON MODULE ENTERED****Explanation**

The module VTLOGON was entered.

**System action**

Processing continues.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OBV201: ERROR WITH IDENTIFY MACRO USED TO LOCATE MODULE VTPRELOG****Explanation**

An attempt to locate VTM1 module VTPRELOG failed.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

## **OBV202: GETMAIN FAILED FOR ATTACH MACRO WORKAREA**

### **Explanation**

Storage request for the ATTACH macro's workarea, as defined by the list form of ATTACH, failed. This area is needed to make the attach request reentrant.

### **System action**

Processing terminates with an error.

### **User response**

Increase the region size.

## **OBV203: ATTACH OF MAIN VTM1 MODULE VTPRELOG FAILED**

### **Explanation**

The ATTACH macro, used to create the main VTM1 task executing module VTPRELOG, failed.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV204: DETACH OF MAIN VTM1 MODULE VTPRELOG FAILED**

### **Explanation**

The detach of the VTM1 module VTPRELOG failed. Note that when this message is issued, regular VTM1 processing was already completed.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV205: FREEMAIN FAILED FOR ATTACH MACRO WORKAREA**

### **Explanation**

Storage request for the ATTACH macro's workarea, as defined by the list form of ATTACH, failed. When this message is issued, regular VTM1 processing is already completed.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV206: GETMAIN FAILED FOR MAIN VTM1 WORKAREA - VTM1WK**

### **Explanation**

The storage request for the main VTM1 workarea failed.

**System action**

Processing terminates with an error.

**User response**

Increase the region size.

**OBV207: GETMAIN FAILED FOR VTALTER****Explanation**

The storage request for the VTM1 workarea failed. This workarea holds information describing the VTM1 processing environment.

**System action**

Processing terminates with an error.

**User response**

Increase the region size.

**OBV208: GETMAIN FAILED FOR VTM1 USER WORKAREA****Explanation**

The storage request for the VTM1 workarea failed. This workarea is for the VTM1 user.

**System action**

Processing terminates with an error.

**User response**

Increase the region size.

**OBV209: ERROR SETTING ESTAE****Explanation**

The MVS™ ESTAE macro that is used to trap VTM1 processing errors failed.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

**OBV210: ERROR CREATING NIB CB****Explanation**

The VTAM® GENCB macro that is used to create an NIB control block failed.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

## **OBV211: ERROR CREATING RPL CB**

### **Explanation**

The VTAM® GENCB macro that is used to create an RPL control block failed.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV212: ERROR CREATING ACB CB**

### **Explanation**

The VTAM® GENCB macro that is used to create an ACB control block failed.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV213: ERROR CREATING EXLST CB**

### **Explanation**

The VTAM® GENCB macro that is used to create an EXLST control block failed.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV214: USER INIT EXIT RETURNS WITH ERROR**

### **Explanation**

After issuing this message, VTM1 begins termination processing. The message is not passed back to the VTM1 user.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV215: ERROR CREATING RPL CB FOR OPNSEC**

### **Explanation**

The VTAM® GENCB macro that is used to create a RPL control block failed. The RPL was to be used by the VTAM® OPNSEC macro in the SCIP exit.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

**OBV216: OPEN ACB FAILED, NONSPECIFIC****Explanation**

An attempt to open an ACB using one of the applids in the pool failed. This message is not passed back to the user.

**System action**

Processing continues; VTM1 tries the next applid in the pool.

**User response**

None.

**OBV217: OPEN ACB FAILED, APPLID ALREADY IN USE****Explanation**

An attempt to open an ACB using one of the applids in the pool failed. This message is not passed back to the user.

**System action**

Processing continues; VTM1 tries the next applid in the pool.

**User response**

None.

**OBV218: OPEN ACB FAILED, APPLID INACT OR UNKNOWN****Explanation**

An attempt to open an ACB using one of the applids in the pool failed. This message is not passed back to the user.

**System action**

Processing continues; VTM1 tries the next applid in the pool.

**User response**

None.

**OBV219: NO LOGON MODE ENTRY AVAILABLE****Explanation**

The user-supplied table was searched, but no logmode entry was found that matched the VTALTER fields.

**System action**

Processing terminates with an error.

**User response**

Check the CALLVT macro parameter VTNAME. Make sure that there is a logon mode table entry specified for the given environment.

**OBV220: SESSION CANNOT START - NO VIRTUAL TERMINAL AVAILABLE****Explanation**

The VTM1 virtual terminal pool was searched, but none of the virtual terminals was available for use.

**System action**

Processing terminates with an error.

**User response**

Verify that the VTAM® major node definition of the virtual terminal pool, KOBVTPL, is active to VTAM®. Also, verify that at least one minor node within the major node has a VTAM® status of CONCT.

**OBV221: SETLOGON FAILED****Explanation**

The VTAM® SETLOGON macro failed.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

**OBV222: REQSESS FAILED****Explanation**

The VTAM® REQSESS macro failed.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

**OBV223: STIMER FAILED****Explanation**

The MVS™ STIMER macro failed.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

## **OBV224: SESSION REQUEST TIMEOUT**

### **Explanation**

VTM1 has not received a response to a session request sent to KOBVTAM. The cause of the failure is not known, but the nature of the problem is probably temporary.

### **System action**

VTM1 session request is terminated.

### **User response**

Try starting another session at a later time. If the condition persists, contact IBM Software Support.

## **OBV225: UNBIND REQUEST RECEIVED**

### **Explanation**

An unexpected UNBIND request was received.

### **System action**

Processing terminates with an error.

### **User response**

Check the application system that VTM1 was logged onto. Try to logon again. If the error persists, contact IBM Software Support.

## **OBV226: UNKNOWN ERROR ENCOUNTERED WHILE EXAMINING THE VTM1 ECB LIST**

### **Explanation**

There is an unclear reason for the transfer of control within VTM1. Neither the STIMER or SCIP ECB was posted.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV228: GETMAIN FOR GBUFF FAILED**

### **Explanation**

The storage request for the VTM1 get buffer area failed.

### **System action**

Processing terminates with an error.

### **User response**

Increase the region size.

## **OBV229: GETMAIN FOR PBUFF FAILED**

### **Explanation**

The storage request for the VTM1 put buffer area failed.

**System action**

Processing terminates with an error.

**User response**

Increase the region size.

**OBV230: UNABLE TO DETERMINE THE USERID****Explanation**

The VTM1 code that examines the ASCB in order to determine user ID encountered an error.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

**OBV231: RECEIVE FAILED, NONSPECIFIC REASON****Explanation**

The VTAM® RECEIVE macro failed.

**System action**

VTM1 abends with user abend code U231. This message is seen only by the internal VTM1 trace routine.

**User response**

Contact IBM Software Support.

**OBV232: SENDING OF DEFINITE RESPONSE FAILED****Explanation**

The VTAM® SEND macro that is issued to send a definite response failed.

**System action**

VTM1 abends with user abend code U232. This message is seen only by the internal VTM1 trace routine.

**User response**

Contact IBM Software Support.

**OBV233: USER PUT EXIT RETURNS WITH ERROR****Explanation**

After issuing this message, VTM1 begins termination processing. The message is not passed back to the VTM1 user.

**System action**

Processing terminates with an error.

**User response**

Contact IBM Software Support.

## **OBV234: USER GET EXIT RETURNS WITH ERROR**

### **Explanation**

After issuing this message, VTM1 begins termination processing. The message is not passed back to the VTM1 user.

### **System action**

Processing terminates with an error.

### **User response**

Contact IBM Software Support.

## **OBV235: SEND FAILED, NONSPECIFIC REASON**

### **Explanation**

The VTAM® SEND macro failed.

### **System action**

VTM1 abends with user abend code U235. This message is seen only by the internal VTM1 trace routine.

### **User response**

Contact IBM Software Support.

## **OBV236: ERROR CREATING RPL CB FOR RECEIVE**

### **Explanation**

The VTAM® GENCB macro that is used to create an RPL control block failed.

### **System action**

VTM1 abends with user abend code U236. This message is seen only by the internal VTM1 trace routine.

### **User response**

Contact IBM Software Support.

## **OBV237: TESTCB FAILED**

### **Explanation**

The VTAM® TESTCB macro failed.

### **System action**

VTM1 abends with user abend code U237. This message is seen only by the internal VTM1 trace routine.

### **User response**

Contact IBM Software Support.

## **OBV238: ERROR CREATING RPL CB FOR SEND**

### **Explanation**

The VTAM® GENCB macro that is used to create an RPL control block failed.

**System action**

VTM1 abends with user abend code U238. This message is seen only by the internal VTM1 trace routine.

**User response**

Contact IBM Software Support.

**OBV239: OPNSEC FAILED****Explanation**

The VTAM® OPNSEC macro that is issued from the SCIP exit failed. This message is seen only by the internal VTM1 trace routine.

**System action**

Processing terminates as if an UNBIND had been received.

**User response**

Contact IBM Software Support.

**OBV300: VTM1 LOGMODE *cccccccc* ERROR - FM/TS *nnnn* NOT SUPPORTED****Explanation**

VTAM® logmode *cccccccc* specifies FM/TS profile *nnnn*, which VTM1 does not support. VTM1 requires a logmode with FM/TS profile "0202".

**System action**

The session terminates.

**User response**

Correct the KOBVTPL definitions to specify an appropriate VTAM® logmode, and retry.

**OBV301: OMEGAMON SESSION REQUEST FAILED - OBVTAM APPL NOT SPECIFIED****Explanation**

A null (blank) applid has been specified.

**System action**

The session terminates.

**User response**

Verify that the applid has been properly supplied by all clists, panels, or procedures, and retry.

**OBV302: SESSION REQUEST FAILED - OBVTAM APPL *cccccccc* NOT DEFINED****Explanation**

VTM1 requested a session with the KOBVTAM application specified. VTAM® does not have a network definition for the KOBVTAM APPL.

**System action**

VTM1 session request terminates.

**User response**

Activate the proper network definition and start KOBVTAM. If KOBVTAM is a cross-domain resource, verify that the VTM1 host has a cross-domain resource definition active for KOBVTAM.

**OBV303: VTM1 APPL ccccccc NOT ACTIVE****Explanation**

The VTM1 appl ccccccc is not active.

**System action**

The session terminates.

**User response**

Make sure that the VTM1 appls have been properly defined and are active.

**OBV304: OPEN ERROR cc DETECTED FOR APPL aaaaaaaaa****Explanation**

OPEN failed to complete successfully for APPL aaaaaaaaa, due to error condition cc, where:

cc

Is always ACBERFLG. For more information about the ACBERFLG values, refer to information about "OPEN macroinstruction error fields" in the *z/OS® Communications Server IP and SNA Codes (SC31-8791)* book and "OPEN--Open one or more ACBs" in the *z/OS® Communications Server SNA Programming (SC31-8829)* book.

aaaaaaaa

Is a user-defined applid. Default sample values are in the OBVTM1nn format, where nn can be 01 through 25.

**System action**

The session terminates.

**User response**

Contact IBM Software Support.

**OBV305: TEMPORARY VTAM® ERROR. RETRY LATER****Explanation**

VTAM® is temporarily short on storage.

**System action**

The session terminates.

**User response**

Retry later. If the problem persists, contact your Network Support group.

**OBV306: VIRTUAL TERMINAL POOL ccccccc IS NOT DEFINED TO VTAM®****Explanation**

No match was found in VTAM®'s configuration tables for the VTM1 virtual terminal pool ccccccc.

**System action**

The session terminates.

**User response**

Verify that the VTM1 application major node is properly defined in SYS1.VTAMLST, and active.

**OBV307: VIRTUAL TERMINAL POOL ccccccc DEFINITION ERROR****Explanation**

ccccccc is not a valid APPL entry.

**System action**

The session terminates.

**User response**

Correct the entry and retry.

**OBV308: NO APPL AVAILABLE IN VIRTUAL TERMINAL POOL ccccccc****Explanation**

All ccccccc virtual terminals are currently in use.

**System action**

The session terminates.

**User response**

Retry later.

**OBV309: VIRTUAL TERMINAL POOL ccccccc IS NOT ACTIVE TO VTAM®****Explanation**

VTAM® cannot access the specified virtual terminal pool.

**System action**

The session terminates.

**User response**

Activate the VTM1 application major mode.

**OBV310: SESSION REQUEST FAILED - ERROR cccc DETECTED****Explanation**

REQSESS failed to complete successfully, due to error condition cccc.

**System action**

The session terminates.

**User response**

Contact IBM Software Support.

## **OBV311: SESSION REQUEST FAILED - OBVTAM APPL ccccccc NOT AVAILABLE**

### **Explanation**

The KOBVTAM appl ccccccc is not active, or is terminating.

### **System action**

The session terminates.

### **User response**

Be sure that the KOBVTAM appl is active, and retry.

## **OBV312: SESSION REQUEST REJECTED - VTAM® REASON CODE xxxx yyyy**

### **Explanation**

The session request initiated by VTM1 was rejected by VTAM®. The reason code is described as follows: xxxx is the VTAM® Request Parameter List return code/feedback information, and yyyy is the SNA System Sense information associated with the request.

### **System action**

VTM1 session request terminates.

### **User response**

Refer the VTAM® reason code information to your network support group or contact IBM Software Support.

## **OBV313: SESSION REJECTED - OBVTAM APPL ccccccc AT MAX USERS**

### **Explanation**

The session request initiated by VTM1 was rejected by KOBVTAM APPL ccccccc because KOBVTAM reached its active session limit. The limit was established with the UMAX parameter when KOBVTAM was started.

### **System action**

VTM1 session request terminates.

### **User response**

Try starting another session at a later time, or increase the value of the KOBVTAM start-up parameter UMAX.

## **OBV314: SESSION REJECTED FAILED - LOGMODE ccccccc IS INVALID**

### **Explanation**

The session request initiated by VTM1 failed because VTAM® rejected the logmode name ccccccc as invalid.

### **System action**

VTM1 session request is terminated.

### **User response**

Verify the logmode name definitions in KOBVTPL. If they are correct, it may be necessary to update VTAM®'s logmode tables.

### **OBV315: VTM1 SLU(*sluname*) MATCH(*match#*) BLOCK SENT**

#### **Explanation**

VTM1 full-duplex communications has sent a block for the specified match on the session for the specified SLU. This message is output only if the TRACE keyword is specified on the LOGON command.

#### **System action**

Processing continues.

#### **User response**

None. The message is informational.

### **OBV316: VTM1 SLU(*sluname*) MATCH(*match#*) BLOCK RECEIVED OR BLOCK QUEUED**

#### **Explanation**

VTM1 full-duplex communications has either received or queued a block for the specified match on the session for the specified SLU. This message is output only if the TRACE keyword is specified on the LOGON command.

#### **System action**

Processing continues.

#### **User response**

None. The message is informational.

### **OBV317: SLU(*sluname*) MATCH(*match#*) PLU(*pluname*) LENGTH(*block length*) SEQ(*block seq#*)**

#### **Explanation**

VTM1 full-duplex communications has sent or received a block for the specified match on the session for the specified SLU. Block length and sequence number are given. This message accompanies either message OBV315 or OBV316. This message is output only if the TRACE keyword is specified on the LOGON command.

#### **System action**

Processing continues.

#### **User response**

None. The message is informational.

### **OBV318: VTM1 FDX RECEIVE PROCESS STARTED FOR *luname***

#### **Explanation**

VTM1 full-duplex communications has started receiving from its session partner on the session for the specified SLU. This message is output only if the TRACE keyword is included on the LOGON command.

#### **System action**

Processing continues.

#### **User response**

None. The message is informational.

## **OBV319: SESSION ENDED. LU(*luname*) REASON(*text*)**

### **Explanation**

A VTM1 full-duplex communications session has ended for the specified reason.

### **System action**

The session terminates, and VTM1 cleans up associated session resources.

### **User response**

The following table lists each reason text and describes the response which should be taken:

<b>Reason</b>	<b>Description and User Response</b>
<b>LOGOFF COMMAND ISSUED</b>	The logoff command was issued to intentionally terminate the session.
<b>UNBIND RECEIVED</b>	The session partner has terminated the session. Inspect the job log of the partner component for messages explaining the reason for the session termination.
<b>COMMUNICATIONS ERROR</b>	Inspect the message log for message OBV322, which documents the cause of the communications error.
<b>INVALID SEQUENCE NUMBER</b>	The session partner has transmitted an invalid sequence number. Contact IBM Software Support.
<b>RPL CREATION ERROR</b>	VTAM® was unable to generate an RPL control block. Contact IBM Software Support.
<b>RECEIVE QUEUE CLOSED</b>	The session has terminated. Determine why the session has terminated before expected data block(s) from the session partner were received.
<b>SEND QUEUE CLOSED</b>	Session termination is in progress so no data blocks can be dequeued from the outbound send queue for the session. If the session has terminated prematurely inspect the log for further messages documenting the reason for the session termination.
<b>UNKNOWN ERROR</b>	Contact IBM Software Support. The associated return code is unknown.

## **OBV320: VTM1 SLU(*sluname*) MATCH(*match#*) SEND BLOCK DEQUEUED.**

### **Explanation**

VTM1 full-duplex communications has dequeued a block from the outbound send queue to send it to the partner PLU for the session with the specified SLU. This message is output only if the TRACE keyword is specified on the LOGON command.

### **System action**

Processing continues.

### **User response**

None. The message is informational.

## **OBV321: SLU(*sluname*) MATCH(*match#*) LENGTH(*block length*) SEQ(*block seq#*)**

### **Explanation**

This message gives detailed information on the block associated with message OBV320, including block length and sequence number. This message is output only if the TRACE keyword is specified on the LOGON command.

**System action**

Processing continues.

**User response**

None. The message is informational.

**OBV322: VTAM® ERROR, LU(*luname*) REQ(*request*) RCFB(*rrff*)****Explanation**

VTM1 has encountered an error on a VTAM® request. The request name (such as send or receive) and RPL return code and feedback information are returned.

**System action**

The session is terminated.

**User response**

Look up the return code and feedback information then correct the problem, given the cause of the communications error.

**OBV323: VTAM® ERROR, LU(*luname*) SSENSE(*request*)****Explanation**

This message accompanies message OBV322 and documents the system sense for the VTAM® request error described in that message.

**System action**

The session is terminated.

**User response**

Look up the sense code and correct the problem, given the cause of the communications error.

## OM messages

The messages that begin with the OM prefix are associated with the OMEGAMON® Base component.

**OM0904: OMSR24 OPEN FUNCTION REQUEST PARAMETER ERROR****Explanation**

An attempt to open the specified LPAM data set failed.

**System action**

The command terminates.

**User response**

Check the spelling and existence of the data set. Make sure you are authorized to open the data set.

**OM0905: INTERNAL ERROR DURING INITIALIZATION****Explanation**

The security work area could not be found during OMEGAMON initialization.

**System action**

OMEGAMON does not start.

**User response**

Call IBM Software Support.

**OM7104: WPF NOT ACTIVE; REQUEST IGNORED****Explanation**

WPF STOP was issued, but WPF was not active.

**System action**

WPF STOP request is ignored.

**User response**

None.

**OM7120: INVALID KEYWORD SPECIFIED: cccccccc****Explanation**

Invalid keyword cccccccc was specified on the WPF command.

**System action**

The WPF command is ignored.

**User response**

Correct the error and reissue the WPF command.

**OM7121: WPF IS ACTIVE; START OPERAND INVALID****Explanation**

WPF START was issued, but WPF was already active or initializing.

**System action**

WPF START request is ignored.

**User response**

None.

**OM7122: DEFAULT RKM2PRDS NOT FOUND, SPECIFY THE RKM2PRDS  
KEYWORD****Explanation**

The name of the EPILOG® Profile data store was not found in the user profile, and WPF START was issued without specifying the RKM2PRDS or DSN operand.

**System action**

WPF START request is ignored.

**User response**

Use the RKM2PRDS operand to specify the data set name of the EPILOG Profile data store on the WPF START command.

## **OM7123: RKM2PRDS NAME MISSING**

### **Explanation**

The RKM2PRDS or DSN operand was specified, but the name of the EPILOG® profile data store was omitted.

### **System action**

The WPF command is ignored.

### **User response**

Include the name of the data set following the RKM2PRDS or DSN operand and reissue the WPF command.

## **OM7124: PROFILE COLLECTOR ATTACH FAILED WITH RC=*nn***

### **Explanation**

The ATTACH for the WPF profile collector failed with return code *nn*.

### **System action**

WPF initialization is terminated.

### **User response**

Attempt to determine and correct the error associated with return code *nn* as documented by the ATTACH System Macro Service, and restart WPF. If the error persists, call IBM Software Support.

## **OM7125: PROFILE COLLECTOR LOAD FAILED WITH RC=*nn***

### **Explanation**

The LOAD for the WPF profile collector failed with return code *nn*.

### **System action**

WPF initialization is terminated.

### **User response**

Attempt to determine and correct the error associated with return code *nn* as documented by the LOAD System Macro Service, and restart WPF. If the error persists, call IBM Software Support.

## **OM7126: XLONG OR XSHORT KEYWORD NO LONGER VALID; IGNORED**

### **Explanation**

The XLONG or XSHORT keyword was specified on the WPF command. These keywords are no longer valid for WPF.

### **System action**

The specified keyword is ignored.

### **User response**

None.

## **OM7130: INITIALIZATION GETMAIN FAILED WITH RC=*nn***

### **Explanation**

The GETMAIN for WPF work areas failed with return code *nn*.

**System action**

WPF initialization is terminated.

**User response**

Attempt to determine and correct the error associated with return code *nn* as documented by the GETMAIN System Macro Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7150: WPF RKM2PRDS READ ERROR, RPL code=*nn*****Explanation**

An error occurred reading the EPILOG® Profile data store. The RPL error code is *nn*.

**System action**

WPF is terminated.

**User response**

Correct the VSAM read error associated with RPL code *nn*. Make sure you have used the EPILOG PROFILE command to create the profiles for selected workloads. Then restart WPF. If the error persists, call IBM Software Support.

**OM7151: WPF TIMER TASK ABENDED****Explanation**

The WPF timer subtask has terminated abnormally.

**System action**

WPF is terminated.

**User response**

Restart WPF. If the error persists, call IBM Software Support.

**OM7152: WPF PROFILE COLLECTOR PROTOCOL ERROR****Explanation**

There is a WPF internal error in the profile collector.

**System action**

WPF is terminated.

**User response**

Restart WPF. If the error persists, call IBM Software Support.

**OM7153: WPF PROFILE COLLECTOR GETMAIN FAILED WITH RC=*nn*****Explanation**

The GETMAIN for WPF work areas in the profile collector failed with return code *nn*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the error associated with return code *nn* as documented by the GETMAIN System Macro Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7154: WPF TIMER TASK ATTACH FAILED WITH RC=*nn*****Explanation**

The ATTACH for the timer task in the profile collector failed with return code *nn*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the error associated with return code *nn* as documented by the ATTACH System Macro Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7155: WPF UNABLE TO VALIDATE EPILOG® INSTALLATION****Explanation**

EPILOG routines required for WPF are not available.

**System action**

The WPF profile collector is terminated.

**User response**

If EPILOG is installed on your system, make sure that the data set name for the EPILOG® load library has been correctly specified on the STEPLIB or JOBLIB statements of the OMEGAMON-invoking JCL. Either the data set specified may be available only to a different CPU, the user may not have security access to it, or the data set may not be cataloged. Correct the situation and restart WPF. If EPILOG is not installed on your system, call IBM Software Support.

**OM7156: WPF PROFILE COLLECTOR ESTAE FAILED WITH RC=*nn*****Explanation**

The ESTAE in the profile collector failed with return code *nn*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the error associated with return code *nn* as documented by the ESTAE System Macro Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7157: WPF RKM2PRDS ALLOCATION FAILED, SVC 99 *xxxx* ERROR=*xxxx*  
INFO=*xxxx*****Explanation**

The dynamic allocation request for the EPILOG Profile data store failed with error code *xxxx* and information code *xxxx*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the error associated with the ERROR and INFO codes as documented by the Dynamic Allocation(SVC 99) System Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7158: WPF RKM2PRDS GENCB FAILED WITH RC=*nn*****Explanation**

GENCB failure in the profile collector. The GENCB return code is *nn*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the error associated with return code *nn* of the VSAM GENCB Macro Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7159: WPF RKM2PRDS OPEN FAILED WITH ACB ERROR=*nn*****Explanation**

The OPEN for the EPILOG® Profile data store failed with return code *nn*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the error associated with ACB ERROR code *nn* of the VSAM OPEN Macro Service, and restart WPF. If the error persists, call IBM Software Support.

**OM7160: WPF INVALID RKM2PRDS KEY LENGTH****Explanation**

A key length error occurred attempting to read the Profile data store.

**System action**

WPF is terminated.

**User response**

Restart WPF. If the error persists, call IBM Software Support.

**OM7161: WPF VSAM LOGICAL ERROR, RPL CODE=*nn*****Explanation**

A VSAM logical error occurred while attempting to read the EPILOG® Profile data store. The error code from the VSAM RPL is *nn*.

**System action**

WPF is terminated.

**User response**

Attempt to determine and correct the VSAM read error associated with RPL code *nn*, and restart WPF. If the error persists, call IBM Software Support.

## **OM7162: WPF RKM2PRDS CLOSE FAILED WITH RC=*nn***

### **Explanation**

The CLOSE for the EPILOG® Profile data store failed with return code *nn*.

### **System action**

WPF is terminated, however, the Profile data store may still be open.

### **User response**

If the Profile data store is still open, a VERIFY operation may be required to CLOSE it.

## **OM7163: WPF REQUIRES EPILOG® V*nnn* OR LATER, V*xxx* FOUND**

### **Explanation**

WPF requires EPILOG® Version *nnn*, or a later version for successful operation, but V*xxx* was found.

### **System action**

The WPF profile collector is terminated.

### **User response**

Make sure that the EPILOG® Version *nnn* load library, or a later version of EPILOG®, is available to OMEGAMON and restart WPF.

## **OM7164: WPF PROFILE COLLECTOR STCK FAILED WITH RC=*nn***

### **Explanation**

A store clock operation failed in WPF profile collector.

### **System action**

WPF is terminated.

### **User response**

Attempt to determine and correct the error associated with condition code *nn* of the STCK instruction as documented in the IBM® *Principles of Operation*, and restart WPF. If the error persists, call IBM Software Support.

## **OM7165: WPF PROFILE COLLECTOR ABENDED**

### **Explanation**

The WPF profile collector has abended.

### **System action**

WPF is terminated. The abend code, PSW, and general registers at the time of the abend are printed following the message text.

### **User response**

Restart WPF. If the problem persists, call IBM Software Support.

## **OM7167: WPF USER IS NOT AUTHORIZED TO READ THE RKM2PRDS**

### **Explanation**

The address space in which OMEGAMON is executing is not authorized to read the EPILOG® Profile data store.

**System action**

The WPF profile collector is terminated.

**User response**

Give the WPF user authorization to read the Profile data store and restart WPF.

**OM7168: WPF RKM2PRDS PROCESSING ERROR****Explanation**

An undeterminable error occurred attempting to read the EPILOG® Profile data store.

**System action**

The WPF profile collector is terminated.

**User response**

Restart WPF. If the problem persists, call IBM Software Support.

**OM7180: WPF WORKLOAD PROFILE ENTRY NOT FOUND****Explanation**

A DWPF or JWPF was issued for a specific profile entry, but that profile entry could not be found.

**System action**

None.

**User response**

Specify the correct profile identifier via the JOB, STC, PGN, or PGP operands and reissue the command. If the DWPF or JWPF commands are specified without any operands, they will display a full list of all profile entries.

**OM7181: WPF INVALID JOB OR STC NAME SPECIFIED****Explanation**

An invalid jobname or started task name was specified with the JOB or STC operand of a DWPF or JWPF command. The jobname or started task name must not exceed eight characters in length, and it must contain those characters defined as acceptable by system JCL syntax.

**System action**

None.

**User response**

Specify the jobname or started task name and reissue the command.

**OM7182: WPF INVALID PERFORMANCE GROUP OR PERIOD NUMBER SPECIFIED****Explanation**

An invalid performance group or period was specified with the PGN or PGP operand of a DWPF command. The performance group must be numeric, between 1 and 999. The period must be numeric, between 1 and 9.

**System action**

None.

**User response**

Specify the correct performance group and/or period number and reissue the command.

**OM7183: WPF PARAMETER ERROR; PGN REQUIRED WITH PGP****Explanation**

The performance group number must be specified with the period number. The PGP operand was specified without the PGN operand on a DWPF request.

**System action**

None.

**User response**

Specify the correct performance group using the PGN operand, and reissue the command.

**OM7184: WPF CONFLICTING PARAMETERS SPECIFIED****Explanation**

Mutually exclusive operands have been specified on a DWPF command. PGN or PGP operands cannot be specified along with JOB or STC.

**System action**

None.

**User response**

Specify the correct operands and reissue the command.

**OM7185: PGN OR PGP INVALID FOR JWPF****Explanation**

The PGN and/or PGP operands have been specified on a JWPF command. PGN or PGP operands are valid only for DWPF.

**System action**

None.

**User response**

Specify the correct operands and reissue the command.

**OM7198: WPF INVALID PARMLIST PASSED TO PROFILE GET****Explanation**

An error occurred attempting to obtain a profile entry on a DWPF or JWPF command.

**System action**

None.

**User response**

Make sure that the operands for the DWPF or JWPF command have been specified correctly and reissue the command if necessary. If this does not rectify the error, then STOP and restart WPF. If the error still persists then call IBM Software Support.

## **OM7199: WPF INVALID RETURN CODE FROM PROFILE GET, RC=xxxxxxx**

### **Explanation**

An error occurred while attempting to obtain a profile entry on a DWPF or JWPF command. The return code from the profile get routine is xxxxxxx.

### **System action**

None.

### **User response**

Make sure that the operands for the DWPF or JWPF command have been specified correctly and reissue the command if necessary. If this does not rectify the error, then STOP and restart WPF. If the error still persists then call IBM Software Support.

## **OM8100: VOLUME NOT FOUND**

### **Explanation**

The volume you specified was not found on this system.

### **System action**

Command execution terminates.

### **User response**

Specify a volume attached to this system.

## **OM8101: DATA SET IS NOT CATALOGED**

### **Explanation**

The data set you specified was not found in the system catalog.

### **System action**

Command execution terminates.

### **User response**

Catalog the data set or specify a data set that is cataloged.

## **OM8102: DATA SET IS NOT ON VOLUME**

### **Explanation**

The data set that you requested was not found on the volume specified.

### **System action**

Command execution terminates.

### **User response**

Specify the volume that the data set resides on.

## **OM8103: VOLUME NOT ON SYSTEM (FROM SVOL COMMAND)**

### **Explanation**

The volume you specified was not found on this system.

**System action**

Command execution terminates.

**User response**

Specify a volume attached to this system.

**OM8104: VOLUME IS NOT MOUNTED (FROM SVOL COMMAND)****Explanation**

The volume you specified was not mounted on this system.

**System action**

Command execution terminates.

**User response**

Specify a volume attached to this system.

**OM8112: DEVICE INVALID OR OFFLINE****Explanation**

The specified device either was not found in the UCB lookup table, or was found to be marked offline.

**System action**

Command execution terminates.

**User response**

Specify a valid volume or vary volume online.

**OM8113: WARNING; cccc FAILED VALIDITY CHECK****Explanation**

The specified control block (ASCB, TCB, DSAB, JFCB, or JFCX) failed validation in the SRB routine for FNDU.

**System action**

FNDU does not collect data set information for the address space which has failed validation.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OM8115: WARNING INVALID RETURN CODE - cc = xx (FROM PEEK, FNDU COMMANDS)****Explanation**

The SRB to collect data failed to complete its task and returned an invalid return code to the user.

**System action**

Command execution terminates.

**User response**

Call IBM Software Support to report a possible problem.

**OM8116: WARNING SQA WORKAREA AT ADDR=xxxx SIZE=yyyyDANGER  
INSUFFICIENT SQA - COMMAND ABORTED WARNING (from PEEK, FNDU  
commands)**

**Explanation**

The SRB to collect data failed to complete its task due to a SQA shortage.

**System action**

None.

**User response**

Call IBM Software Support to report a possible problem.

**OM8120: CHANNEL SET NOT VALID**

**Explanation**

An attempt was made to find the channel set in the CST but it was not found.

**System action**

None.

**User response**

Specify a valid channel set.

**OM8121: CHANNEL SET NOT DEFINED (FROM DEV COMMAND)**

**Explanation**

The channel set you entered is not defined to the system.

**System action**

None.

**User response**

Specify a channel set defined to this system.

**OM8122: PARTE NOT IN USE**

**Explanation**

You attempted to display a PARTE that is not currently in use.

**System action**

Command execution terminates.

**User response**

Specify a PARTE that is in use.

**OM8123: RMF™ NOT ACTIVE**

**Explanation**

The command requires the Resource Management Facility (RMF™) or a specific RMF™ report to be active.

**System action**

Command execution terminates.

**User response**

Modify RMF™ to add the required report for collection or start RMF™.

**OM8124: CPU NOT DEFINED****Explanation**

You attempted to list channel sets from a CPU that is not currently available.

**System action**

Command execution terminates.

**User response**

Select a CPU that is currently available.

**OM8125: COMMAND NOT AVAILABLE IN GOAL MODE****Explanation**

You attempted to execute a command that is not valid in goal mode.

**System action**

Command execution terminates.

**User response**

Try a different command, or switch to compatibility mode.

**OM8126: IWMRCOLL FAILED, CODE=*nn*****Explanation**

Indicates a failure in an z/OS® service which provides information for some of the commands.

**System action**

Command execution terminates.

**User response**

Contact IBM Software Support.

**OM8127: CONTROL BLOCK DOES NOT EXIST IN SP5 OR HIGHER SYSTEMS****Explanation**

The control block being accessed does not exist in MVS/SP™ 5.1 or above.

**System action**

Command execution terminates.

**User response**

Try running a different version of z/OS®.

## **OM8128: DMDT DOES NOT EXIST IN SP5 OR HIGHER SYSTEMS IN WLM GOAL MODE**

### **Explanation**

The DMDT, the Domain Descriptor Table, does not exist in MVS/SP™ 5.1 or higher levels of z/OS® running in Workload Manager goal mode. The domain construct has no meaning in goal mode.

### **System action**

Command execution terminates.

### **User response**

Try using an MVS/SP™ 5.1 or above goal mode compatible command.

## **OM8130: WARNING NO GRS VECTOR TABLE**

### **Explanation**

In processing the GRS command the address of the GRS Vector Table was not found.

### **System action**

Command execution terminates.

### **User response**

Activate GRS before you issue the GRS command.

## **OM8140: TSO NOT AVAILABLE IN *xxxx* MODE**

### **Explanation**

The TSO command is not available in this mode, where *xxxx* indicates the mode.

### **System action**

Command execution terminates.

### **User response**

Issue TSO command in TS or LS modes only.

## **OM8141: STAX FAILED; RC=*nn***

### **Explanation**

A STAX SVC was unsuccessful. *nn* is the STAX SVC return code.

### **System action**

Command execution terminates.

### **User response**

Reissue the command. If the problem persists, call IBM Software Support.

## **OM8142: IKJSCAN FAILED; RC=*nn***

### **Explanation**

A non-zero return code was issued by the IKJSCAN routine, where *nn* is a two digit number.

**System action**

Command execution terminates.

**User response**

Reissue the command. If the problem persists, call IBM Software Support.

**OM8143: ATTACH FAILED; RC=*nn*****Explanation**

A non-zero return code was issued by the ATTACH SVC, where *nn* is a two digit number.

**System action**

Command execution terminates.

**User response**

Reissue command. If the problem persists, call IBM Software Support.

**OM8144: COMMAND *cccccccc* ENDED - NON-ZERO RETURN CODE is *nn*****Explanation**

The command *cccccccc* ended with a four digit (*nnnn*) non-zero return code.

**System action**

Command execution terminates.

**User response**

Use the return code to diagnose the error. Correct and re-execute the TSO command.

**OM8145: TEST COMMAND NOT SUPPORTED UNDER OMEGAMON****Explanation**

The OMEGAMON TSO command does not support the TEST command.

**System action**

Command execution terminates.

**User response**

Issue a command other than TEST.

**OM8146: NO INFORMATION AVAILABLE****Explanation**

No second level message chain exists for ? command.

**System action**

Command execution terminates.

**User response**

Issue a command other than ?.

## **OM8147: INVALID COMMAND NAME SYNTAX**

### **Explanation**

Invalid command syntax in TSO command.

### **System action**

Command execution terminates.

### **User response**

Correct and reissue command.

## **OM8148: COMMAND *cccccccc* NOT FOUND**

### **Explanation**

OMEGAMON cannot find command *cccccccc*.

### **System action**

Command execution terminates.

### **User response**

Correct and reissue the command.

## **OM8149: COMMAND *cccccccc* ENDED DUE TO ATTENTION**

### **Explanation**

Command *cccccccc* ended due to depression of the ATTN/PA1 key.

### **System action**

Command execution terminates.

### **User response**

None.

## **OM8150: COMMAND *cccccccc* ENDED DUE TO ERROR - COMPLETION CODE IS *Snnnn|Unnnn***

### **Explanation**

Command *cccccccc* ended abnormally with the System/User abend code displayed.

### **System action**

Command execution terminates.

### **User response**

Use the completion code to diagnose the error. Correct and re-execute the command.

## **OM8201: NO SUCH ADDRESS SPACE THRESHOLD GROUP DEFINED**

### **Explanation**

You entered a command to list an address space threshold group that was not defined.

**System action**

Command execution terminates.

**User response**

Enter an address space threshold group that is coded in your profile or use the ASG command to add this address space threshold group to your profile.

**OM8203: NO CHANNEL AVAILABILITY TABLE****Explanation**

No Channel Availability Table was found for the channel identifier entered.

**System action**

None.

**User response**

Correct and reissue command with a valid channel identifier.

**OM8204: WARNING—RUNNING xxx OMEGAMON® ON yyy SYSTEM TYPE OK (AND HIT ENTER TO CONTINUE OR C TO CANCEL)****Explanation**

OMEGAMON is built for xxx operating system and is running on yyy operating system. This causes functions and commands to fail.

**System action**

Startup continues if you enter OK.

**User response**

Install the yyy level of OMEGAMON and then restart OMEGAMON.

**OM8210: DATA SET NAME LENGTH GREATER THAN 44 (FROM LOC COMMAND)****Explanation**

The data set name that you entered was greater than 44 characters in length.

**System action**

Command execution terminates.

**User response**

Enter a valid data set name.

**OM8211: GQSCAN FAILURE, R/C = nn****Explanation**

GQSCAN returned an invalid return code *nn*.

**System action**

Command execution terminates.

**User response**

Look for a description of the return code in the Supervisor SPL. If problem persists call IBM Software Support.

## **OM8212: MAJOR ENQUEUE NAME LENGTH ERROR (MAX = 8)**

### **Explanation**

The major enqueue name that you entered was greater than eight characters in length.

### **System action**

Command execution terminates.

### **User response**

Enter a valid enqueue name.

## **OM8213: MINOR ENQUEUE NAME LENGTH ERROR (MAX = 44)**

### **Explanation**

The minor enqueue name that you entered was greater than 44 characters in length.

### **System action**

Command execution terminates.

### **User response**

Enter a valid minor enqueue name.

## **OM8214: INVALID GENERIC MINOR ENQUEUE NAME REQUEST**

### **Explanation**

You placed an \* in a position other than the end of the enqueue name.

### **System action**

Command execution terminates.

### **User response**

Delete all characters to the right of the asterisk and retry the command.

## **OM8215: INVALID HEX CHARACTER STRING**

### **Explanation**

You entered hex data that contained characters that are not hex.

### **System action**

Command execution terminates.

### **User response**

Correct the enqueue name and re-enter.

## **OM8216: SYNTAX ERROR**

### **Explanation**

An invalid hex entry was specified for the enqueue name.

### **System action**

Command execution terminates.

**User response**

Correct the enqueue name and re-enter.

**OM8217: ERROR GQSCAN ABEND S09A****Explanation**

GQSCAN encountered an unrecoverable error.

**System action**

Command execution terminates.

**User response**

Try function again. If problem persists call IBM Software Support.

**OM8218: ERROR GQSCAN RETURN CODE - *nn*****Explanation**

GQSCAN returned an invalid return code *nn*.

**System action**

None.

**User response**

Look for a description of the return code in the Supervisor SPL. If problem persists call IBM Software Support.

**OM8230: GREATER THAN MAX PERF GROUP****Explanation**

You requested a performance group that was greater than the highest performance group specified in the system.

**System action**

Command execution terminates.

**User response**

Enter a performance group that is valid for your system.

**OM8231: F IS INVALID WITH THIS COMMAND****Explanation**

No fixed frames exist for the region being displayed.

**System action**

Command execution terminates.

**User response**

Correct and reissue the command without the F argument.

## **OM8240: STAT WORKAREA NOT AVAILABLE**

### **Explanation**

An internal work table was invalidated.

### **System action**

Command execution terminates.

### **User response**

Ensure that RMF™ is still active in the system. If the problem persists call IBM Software Support.

## **OM8241: RMF™ ROUTINE NOT ACTIVE (RC = nn)**

### **Explanation**

You entered a command which requires data from RMF™ and RMF™ is not running on this system.

### **System action**

None.

### **User response**

Start RMF™ and re-enter the command after RMF™ initializes.

## **OM8242: RMF™ NOT ACTIVE (RC = nn)**

### **Explanation**

You entered a command which requires data from RMF™ and RMF™ is not running on this system.

### **System action**

Command execution terminates.

### **User response**

Start RMF™ and re-enter the command after RMF™ has initialized.

## **OM8243: DEVICES NOT BEING MONITORED BY RMF™**

### **Explanation**

The command requires RMF™ Device reporting of tape or DASD to be active and it is not.

### **System action**

None.

### **User response**

Modify RMF™ to add the required report option for collection.

## **OM8244: RMF™ NOT COLLECTING DATA FOR THIS DEVICE CLASS**

### **Explanation**

No RMF™ data is being collected for the device class selected.

### **System action**

Command execution terminates.

**User response**

Correct and reissue the command specifying a different device class.

**OM8245: INTERNAL ERROR (RC=*nn*)****Explanation**

An OMEGAMON logic error was detected.

**System action**

Command execution terminates.

**User response**

Call IBM Software Support.

**OM8246: CHANNEL PATH WORK AREA NOT AVAILABLE****Explanation**

A channel path work area was not available.

**System action**

Command execution terminates.

**User response**

Reissue the command. If the problem persists, call IBM Software Support.

**OM8247: RMF™ DEVICE STATISTICS NOT AVAILABLE (RC=*nn*)****Explanation**

No RMF™ statistics are available for the device you selected.

**System action**

Command execution terminates.

**User response**

Correct and reissue the command specifying a different device.

**OM8248: DATA NOT AVAILABLE FOR DEVICE (RC=*nn*)****Explanation**

No data is available for the logical control unit you selected.

**System action**

Command execution terminates.

**User response**

Correct and reissue the command specifying a different LCU.

## **OM8260: MEMORY AT xxxxxx IS FETCH (STORE)-PROTECTED (FROM MZAP, MLST COMMANDS)**

### **Explanation**

The memory at xxxxxx cannot be fetched or stored into because it is fetch protected.

### **System action**

No zap applied.

### **User response**

Add the authorized character to override the protection.

## **OM8270: MODULE WAS NOT FOUND IN TSO AUTHORIZATION LIST**

### **Explanation**

The OMEGAMON program name was not found in the list of APF programs available to the TSO user.

### **System action**

Command execution continues.

### **User response**

Add OMEGAMON to the TSO authorization list and reassemble.

## **OM8271: MODULE DID NOT COME FROM AN APF LIBRARY**

### **Explanation**

Module was loaded from a library that is not APF authorized or that lost APF authorization.

### **System action**

Command execution continues.

### **User response**

Ensure that STEPLIB references are APF authorized in all libraries.

## **OM8272: MODULE WAS NOT FOUND MARKED AC=1**

### **Explanation**

Module was not link edited with AC=1 in the link edit PARM.

### **System action**

Command execution continues.

### **User response**

Relink module.

## **OM8273: MODULE WAS FOUND IN THE TCB/RB CHAIN**

### **Explanation**

An unexpected module was found in the TCB/RB chain. This may be why OMEGAMON is not authorized.

**System action**

Command execution continues.

**User response**

See this product's *OMEGAMON II for MVS Configuration Guide* for ways to install OMEGAMON authorized.

**OM8274: ENTRY NOT FOUND IN THE APF LIST****Explanation**

You requested to delete a data set from the APF list. The data set was not in the APF list.

**System action**

Command execution terminates.

**User response**

Retry the command with a data set that is in the APF LIST.

**OM8275: ENTRY ALREADY EXISTS IN THE APF LIST****Explanation**

You attempted to add a data set to the APF list. The data set was already in the APF list.

**System action**

Command execution terminates.

**User response**

Retry the command with a data set that is not in the APF list.

**OM8276: GETMAIN FAILED FOR NEW APF LIST****Explanation**

There was not enough SQA storage available to get an area for the new APF list.

**System action**

Command execution terminates.

**User response**

Call IBM Software Support if command repeatedly fails.

**OM8277: SYNTAX ERROR NEAR COLUMN FLAGGED ABOVE****Explanation**

A syntax error was found in validating information about a library.

**System action**

Command execution terminates.

**User response**

Ensure proper specification of DSN and volser, then retry command.

## **OM8278: DATA SET NAME OR VOLUME SERIAL NOT SUPPLIED**

### **Explanation**

You did not enter the data set name and volume serial number required for the command.

### **System action**

Command execution terminates.

### **User response**

Ensure that you specify all required fields (DSN, VOL).

## **OM8279: NEW VOLUME SERIAL NOT SUPPLIED**

### **Explanation**

You attempted to catalog a volume serial number of a data set in the APF list. You did not supply a new volume serial number.

### **System action**

Command execution terminates.

### **User response**

Specify the NVOL operand with the new volume serial number.

## **OM8280: CONSOLE NOT FOUND**

### **Explanation**

The console specified could not be found in the system.

### **System action**

None.

### **User response**

Specify a valid console number.

## **OM8281: CSVAPF FAILED FOR DYNAMIC APF LIST, RC=*nn* REAS=*mmmm***

### **Explanation**

The CSVAPF service returned a non-zero return code.

### **System action**

The system terminates command execution.

### **User response**

Refer to the IBM® *Application Development Reference* manual for CSVAPF return codes and reason codes.

## **OM8283: SVC TABLE UPDATE ERROR - RC = *nnnn***

### **Explanation**

An error occurred updating the SVC table. The return code *nnnn* is from the SVCUPDTE macro.

**System action**

LPAM adds the module, but the SVC table is not updated.

**User response**

Call IBM Software Support.

**OM8284: INVALID LPAM MODIFY REQUEST - PROGRAM IS A TYPE 1, 2, OR 6 SVC****Explanation**

You cannot use LPAM to process SVC type 1, 2, and 6 modules.

**System action**

Command execution terminates.

**User response**

See message OM8307.

**OM8285: MODULE FOUND IN FIXED LPA, NOT DELETED****Explanation**

You cannot delete a module that exists in the FLPA.

**System action**

Command execution terminates.

**User response**

Specify a module name that is not in the FLPA.

**OM8286: MODULE NOT CURRENTLY IN MODIFIED LPA****Explanation**

You attempted to delete a module that was not found in the MLPA.

**System action**

Command execution terminates.

**User response**

Specify a module that is in the MLPA.

**OM8287: MODULE NOT FOUND IN THE LPA****Explanation**

You attempted to list a module that is not in the LPA.

**System action**

Command execution terminates.

**User response**

Specify the name of a module that is currently in LPA.

## **OM8288: LPAM FAILED - MODULE ALREADY ON ACTIVE LPA QUEUE**

### **Explanation**

The LPAMM command is already on the active LPA queue. LPAMM cannot modify a module previously placed in this state.

### **System action**

Command execution terminates.

### **User response**

To modify the module again, first delete the entry using LPAMD and add the new module using LPAMM.

## **OM8289: MODULE NOT FOUND IN cccccccc**

### **Explanation**

A search of the directory of data set cccccccc was made but the module was not found.

### **System action**

Command execution terminates.

### **User response**

Ensure that the specified module exists in the data set specified.

## **OM8290: PROGRAM NAME NOT SUPPLIED - ENTER (PGM=)**

### **Explanation**

The LPAM command was issued without the required operand. You did not specify the required PGM keyword on the LPAMM or LPAMD command.

### **System action**

Command execution terminates.

### **User response**

Respecify the command with the program name that you wish to list.

## **OM8291: LOAD LIBRARY NAME NOT SUPPLIED - ENTER (DSN=)**

### **Explanation**

LPAMA and LPAMM require a library name to get the module from.

### **System action**

Command execution terminates.

### **User response**

Specify the data set name for the library that contains the module.

## **OM8292: LOAD LIBRARY ALLOCATION FAILURE - RC=nn ERROR=cc INFO=cc**

### **Explanation**

An attempt to allocate the specified library failed. RC=nn, ERROR=cc, and INFO=cc are the dynamic allocation return, error, and information reason codes.

**System action**

LPAM command execution terminates.

**User response**

Make sure that the data set name specified on the DSN parameter is correct and that the specified data set is accessible to the system on which the OMEGAMON session is executing.

**OM8293: GLOBAL LOAD FAILED - ABEND CODE = xxx****Explanation**

An attempt to load the LPAMLIB failed. xxx is the load return code.

**System action**

Command execution terminates.

**User response**

Refer to the IBM® *Supervisor Services SPL* manual for load return codes.

**OM8297: JOBNAME ccccccc NOT FOUND****Explanation**

You attempted to cancel job ccccccc, which was not running on the system.

**System action**

Command execution terminates.

**User response**

Specify a currently active job.

**OM8298: ASID nnn REPRESENTS JOB ccccccc****Explanation**

You attempted to cancel job ccccccc where the ASID nnn did not match the jobname specified.

**System action**

Command execution terminates.

**User response**

Verify that the jobname/ASID combination is correct.

**OM8299: CALLRTM FAILED - RC = nn****Explanation**

The RTM service returned a non-zero return code.

**System action**

Command execution terminates.

**User response**

Refer to the IBM® *Supervisor Services SPL* manual for CALLRTM return codes.

## OM8300: NO ASCBCHAP ROUTINE

### Explanation

The address of the CHAP routine was not found in the CVT. In post SE1 systems this is a trivial problem since CHAP does not affect most address spaces. z/OS® has lost its ability to address IEVEACO.

### System action

Command execution terminates.

### User response

If problem persists call IBM Software Support.

## OM8305: *aaa/ccc* - STORAGE UNAVAILABLE

### Explanation

The variable *aaa/ccc* can be one of the following:

#### CSA/MOD

CSA storage unavailable for module.

#### SQA/CDE

SQA storage unavailable to build CDEs.

#### SQA/SMF

SQA storage unavailable for SMF tables.

#### PVT/MOD

Private area storage unavailable for module.

#### PVT/DEL

Private area storage unavailable for DELETE list.(Needed for internal processing of a DELETE request.)

### System action

LPAM command terminates.

### User response

If CSA or SQA was unavailable, retry the request at a time when more area is available. If the private area was unavailable, retry with OMEGAMON running in a larger region.

## OM8306: PRIMARY LOAD MODULE NOT FOUND

### Explanation

You specified an alias name in the PGM= parameter and the primary load module was not found in the load library.

### System action

Command execution terminates.

### User response

Determine the cause of the problem. A possible solution would be to re-linkedit or re-copy the load module and all of its aliases and retry the command.

## **OM8307: ccccccc REPLACES A TYPE 1, 2, or 6 SVC**

### **Explanation**

You attempted to issue LPAM to replace a module that is a type 1, 2, or 6 SVC. LPAM does not support replacement of type 1, 2, or 6 SVCs.

### **System action**

Command execution terminates.

### **User response**

Refer to the IBM® *SPL: System Generation Reference* for instructions to replace the SVC.

## **OM8308: REQUEST TERMINATED DUE TO PREVIOUS ERRORS**

### **Explanation**

Errors occurred during LPAM processing.

### **System action**

Command execution terminates.

### **User response**

See the error preceding the messages to determine whether you can resolve the problems and then retry the command.

## **OM8309: ccccccc INVALID FOR EXTENDED SVC ROUTER TABLE**

### **Explanation**

An SVC router (IGX00ccc) module is being processed and the SVC router code (*nnn*) is higher than the system allows.

### **System action**

Command execution terminates.

### **User response**

See message OM8307.

## **OM8310: SVC VALUE CONFLICTS WITH PGM=cccccccc**

### **Explanation**

The value of the SVC parameter does not match the SVC number indicated by the PGM name.

### **System action**

Command execution terminates.

### **User response**

Verify that the PGM name is correct. If so, the SVC parameter value must equal the SVC indicated by the PGM name. Note that you do not need the SVC parameter in this situation.

### **OM8313: ccccccc IS IN OVERLAY STRUCTURE**

#### **Explanation**

You attempted to process load module *ccccccc*, which is link-edited in an overlay structure. LPAM does not support modules that are link-edited in an overlay structure.

#### **System action**

Command execution terminates.

#### **User response**

Refer to the IBM® *SPL: System Generation Reference* for instructions to replace the module.

### **OM8314: SYNTAX ERROR NEAR COLUMN FLAGGED ABOVE**

#### **Explanation**

A syntax error was found, and the command could not be interpreted. The \* indicates where the error was.

#### **System action**

Command execution terminates.

#### **User response**

Correct the command and re-enter.

### **OM8315: SMF EXIT TABLE ID NOT FOUND: cccc**

#### **Explanation**

The SMF subsystem ID specified by the SMFSYS= parameter was not found in the system.

#### **System action**

Command execution terminates.

#### **User response**

Specify the correct SMF system ID.

### **OM8323: NOT IN AUTOMATIC MODE - RETURN IGNORED**

#### **Explanation**

OMEGAMON received a .RTN command.

#### **System action**

OMEGAMON ignores the command.

#### **User response**

None.

### **OM8324: WARNING: NEW SVC MODULE ccccccc BEING ADDED**

#### **Explanation**

The SVC to be added by LPAMM has no LPDE and its current SVC table entry point is IGCERROR. A subsequent LPAMD deletion of the SVC returns it to its original state.

**System action**

Command continues normally.

**User response**

Note that if you issue the SVC after deleting it with LPAMD, the system abends the issuing task.

**OM8324(IMS): NO TARGET SCREEN SPACE****Explanation**

OMEGAMON found a syntax error in the .RTN command.

**System action**

OMEGAMON ignores the command.

**User response**

Correct the .RTN command, save the screen space, and reinvoke the screen space.

**OM8325: NEW SVC ccccccc HAS UNEXPECTED SVC TABLE ENTRY POINT****Explanation**

The SVC to be added by LPAMM has no LPDE, but the SVC table entry point is not IGCERROR as expected. A subsequent LPAMD deletion of the SVC does not restore it to its original state.

**System action**

Command execution terminates.

**User response**

If you still want to add the SVC, use the FORCE operand of the LPAMM command. Note that if you issue the SVC after deleting it with LPAMD, the system abends the issuing task.

**OM8326: ccccccc INVALID FOR LPAM****Explanation**

You cannot use the LPAM command to load module ccccccc.

**System action**

Command execution terminates.

**User response**

None.

**OM8327: INVALID ARGUMENT. USE M, D, OR BLANK.****Explanation**

The LPAM command allows only the following arguments:

**M**

Modify

**D**

Delete

**(blank)**

List

**System action**

Command execution terminates.

**User response**

Use the appropriate argument for LPAM.

**OM8333: MODULE HAS MORE THAN 16 ALIASES - CANNOT LPAM**

**Explanation**

LPAMM allows only 16 aliases for a module.

**System action**

LPAM command execution terminates.

**User response**

If none of the aliases are needed, use LPAMM with the NOALIAS parameter to add the module.

**OM8335: MORE THAN 49 ALIASES; ONLY FIRST 49 DELETED**

**Explanation**

LPAMD can only delete up to 49 aliases of a module.

**System action**

The module and its first 49 aliases are deleted. Additional aliases remain on the active LPA queue. Programs attempting to access the deleted module with any of the remaining aliases may abend.

**User response**

Schedule an IPL to remove the remaining aliases from the active LPA queue.

**OM8336: TOO MANY SMFSYS NAMES SPECIFIED**

**Explanation**

The SMFSYS parameter of LPAM allows only 7 SMF subsystem names to be specified.

**System action**

The LPAM command terminates.

**User response**

If you want the exit to be added for all SMF subsystems, omit the SMFSYS parameter.

**OM8339: MODULE LOGICALLY DELETED; CSA NOT FREED**

**Explanation**

The specified SMF exit has been logically removed from the subsystems specified on the SMFSYS parameter. However, the exit is still in use by other SMF subsystems. The module storage in CSA is not freed.

**System action**

The LPAMD is successful for the specified subsystems.

**User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OM8342: LOAD LIBRARY UNALLOCATION FAILURE - RC=*nn* ERROR=*cc* INFO=*cc*****Explanation**

An attempt to unallocate the specified library has failed. RC=*nn*, ERROR=*cc*, and INFO=*cc* are the dynamic allocation return, error, and information reason codes.

**System action**

LPAM command execution terminates.

**User response**

If the data set is still allocated by the OMEGAMON session, and it is preventing other users from accessing the data set, you may need to stop and restart the OMEGAMON session to free the allocation.

**OM8343: ccccccc CURRENTLY IN USE****Explanation**

LPAMD was requested for a module that is currently being used.

**System action**

The LPAM request is terminated.

**User response**

Reissue the LPAMD command when the module is no longer in use.

**OM8348: MDF PROCESSING DISABLED. USE POPT COMMAND TO RESET.****Explanation**

This command has been disabled because MDF=OFF was specified in the POPT command.

**System action**

The command is terminated.

**User response**

If you have an Amdahl MDF system, specify MDF=ON.

**OM8349: DOMAIN AUTHORIZED TO OBTAIN DATA ONLY FOR DOMAIN *n*****Explanation**

The current Amdahl™ domain is only authorized to collect data for itself. The current domain number is given in the message.

**System action**

The command continues to display data only for current domain.

**User response**

To avoid this message either specify the current domain number as an argument to the command, or authorize the domain to collect data for all domains (set authorization level "2" via hardware frame).

## **OM8350: COMMAND ONLY VALID FOR AMDAHL MDF SYSTEM**

### **Explanation**

This command pertains specifically to an Amdahl MDF system and will not function on another system.

### **System action**

The command is terminated.

### **User response**

None.

## **OM8351: DOMAIN NOT AUTHORIZED FOR DATA COLLECTION; RC=*nn***

### **Explanation**

The current Amdahl domain is not authorized (via the hardware CA frame) to collect data requested about MDF.

### **System action**

The command discontinues attempts to collect the data.

### **User response**

The authorization level on the Amdahl CA frame should be 2 to collect data for all domains or 1 to collect data for only the current domain. For full OMEGAMON functionality with respect to MDF support, the authorization level should allow all domain data collection (2).

## **OM8352: MDF IIC MRSD INTERFACE ERROR OCCURRED; RC=*nn***

### **Explanation**

A problem occurred while using the Amdahl MDF IIC interface.

### **System action**

The command discontinues attempts to collect MDF data.

### **User response**

Record the message number and return code (RC) and call IBM Software Support.

## **OM8353: MDF IIC MDFWATCH INTERFACE ERROR OCCURRED; RC=*nn***

### **Explanation**

A problem occurred while using the Amdahl MDF IIC interface.

### **System action**

The command discontinues attempts to collect MDF data.

### **User response**

Record the message number and return code (RC) and call IBM Software Support.

## **OM8354: MDF RMI MRSD INTERFACE ERROR OCCURRED; RC=*nn***

### **Explanation**

A problem occurred while using the Amdahl MDF RMI interface.

**System action**

The command discontinues attempts to collect MDF data.

**User response**

Record the message number and return code (RC) and call IBM Software Support.

**OM8355: MDF RMI MDFWATCH INTERFACE ERROR OCCURRED; RC=*nn*****Explanation**

A problem occurred while using the Amdahl MDF RMI interface.

**System action**

The command discontinues attempts to collect MDF data.

**User response**

Record the message number and return code (RC) and call IBM Software Support.

**OM8356: MDF INTERFACE/OMEGAMON INTERNAL ERROR; RC=*nn*****Explanation**

An internal error occurred while using the Amdahl MDF interface.

**System action**

The command discontinues attempts to collect MDF data.

**User response**

Record the message number and return code (RC) and call IBM Software Support.

**OM8357: MDF INTERFACE NOT SUPPORTED IN THIS ENVIRONMENT****Explanation**

The Amdahl MDF interface is not supported in the current system environment, for example in PMA or guest mode environments.

**System action**

The command is terminated.

**User response**

None.

**OM8358: COMMAND REQUIRES APF AUTHORIZATION****Explanation**

OMEGAMON must be authorized for this command to operate.

**System action**

The command is terminated.

**User response**

Authorize OMEGAMON (see *OMEGAMON II for MVS Configuration Guide*).

## **OM8359: UNABLE TO ALLOCATE 4K WORKAREA; RC=*nn***

### **Explanation**

OMEGAMON failed while trying to allocate a 4k page-fixed workarea. Possible meanings of the return code are as follows:

**24**

GETMAIN failed.

**28**

Page fix failed.

### **System action**

The command is terminated.

### **User response**

Increase the region size and try again. If the problem persists, call IBM Software Support.

## **OM8360: COMMAND ONLY VALID FOR PR/SM™ LPAR MODE OPERATIONS**

### **Explanation**

This command is valid only when operating under logical partitioning mode (PR/SM™).

### **System action**

The command is terminated.

### **User response**

None.

## **OM8361: PR/SM™ LPAR INTERFACE FAILURE**

### **Explanation**

The interface needed to gather the logical partitioning data has failed, and OMEGAMON is unable to provide the logical partitioning data.

### **System action**

The command is terminated.

### **User response**

Restart OMEGAMON. If the problem persists, call IBM Software Support.

## **OM8362: INVALID DATA FROM THE PR/SM™ LPAR INTERFACE**

### **Explanation**

Invalid data was returned from the interface so the LPAR command could not provide valid logical partitioning data.

### **System action**

The command is terminated.

### **User response**

Try the LPAR command again. If the problem persists, call IBM Software Support.

## **OM8363: LPAR COMMAND INTERNAL ERROR**

### **Explanation**

An internal error has occurred in the LPAR command.

### **System action**

The command is terminated.

### **User response**

Call IBM Software Support.

## **OM8370: INVALID PARAMETER FOR CHNM**

### **Explanation**

An unrecognized parameter was entered for CHNM.

### **System action**

The command is terminated.

### **User response**

Check the command syntax and respecify with the correct parameter.

## **OM8371: CHANNEL PATH ID NOT SPECIFIED FOR ADD OR DELETE FUNCTION**

### **Explanation**

The ADD or DELETE keyword was specified without a channel path ID.

### **System action**

The command is terminated.

### **User response**

Specify the channel paths to be added or deleted.

## **OM8372: CHANNEL PATH ID MUST BE BETWEEN 00 THRU *ff***

### **Explanation**

The channel path ID specified was outside of the valid range.

### **System action**

The command is terminated.

### **User response**

Specify the channel path (00 through *ff*).

## **OM8373: CHANNEL SET ID MUST BE SPECIFIED**

### **Explanation**

The channel set ID was not specified in MVS/370 mode.

### **System action**

The command is terminated.

**User response**

Specify the channel set ID required for MVS/370 mode.

**OM8376: INVALID PARAMETER FOR CPUM****Explanation**

An unrecognized parameter was entered for CPUM.

**System action**

The command is terminated.

**User response**

Check the command syntax and respecify the command with the correct parameter.

**OM8377: CPU ID NOT SPECIFIED FOR ADD OR DELETE FUNCTION****Explanation**

The ADD or DELETE keyword was specified without a CPU ID.

**System action**

The command is terminated.

**User response**

Specify the CPU IDs to be added or deleted.

**OM8378: CPU ID MUST BE BETWEEN 0 THRU 15****Explanation**

The CPU ID specified was outside of valid range.

**System action**

The command is terminated.

**User response**

Specify the CPU ID between 0 through 15 (decimal).

**OM8380: NOT ADDED. USE \* ONLY IN LAST POSITION OF GROUP NAME.****Explanation**

The input group mask *gggggggg* is not acceptable since the mask character \* occurred before the last character.

**System action**

The command terminates.

**User response**

Correct the input group name mask.

**OM8381: NOT ADDED. *gggggggg* DUPLICATES USERS IN GROUP *hhhhhhh***

**Explanation**

The input group mask *gggggggg* cannot coexist with the group mask *hhhhhhh*; *hhhhhhh* specifies a subset of *gggggggg*.

**System action**

The command terminates.

**User response**

Correct the input group mask *gggggggg* or delete *hhhhhhh*.

**OM8382: NOT ADDED. *gggggggg* IS CURRENTLY MONITORED IN GROUP *hhhhhhh***

**Explanation**

The input group mask *gggggggg* cannot coexist with the group mask *hhhhhhh*; *gggggggg* specifies a subset of *hhhhhhh*.

**System action**

The command terminates.

**User response**

Correct the input group mask *gggggggg* or delete *hhhhhhh*.

**OM8383: NOT ADDED. *gggggggg* IS ALREADY BEING MONITORED.**

**Explanation**

The input group mask *gggggggg* already exists.

**System action**

The command terminates.

**User response**

Respecify a non-existing input group mask.

**OM8384: ADDED. *gggggggg* IS NOW BEING MONITORED.**

**Explanation**

The group mask *gggggggg* was successfully added for monitoring.

**System action**

None.

**User response**

None.

**OM8385: DELETED. *gggggggg* IS NO LONGER BEING MONITORED.**

**Explanation**

The group mask *gggggggg* was successfully deleted from monitoring.

**System action**

None.

**User response**

None.

**OM8386: NOT FOUND. *gggggggg* IS NOT CURRENTLY BEING MONITORED.**

**Explanation**

The group mask *gggggggg* does not exist for deletion.

**System action**

The command terminates.

**User response**

Correct the input group mask.

**OM8387: KEYWORD IGNORED. *kkkkkkkk* IS INVALID; VERIFY SYNTAX.**

**Explanation**

The keyword specified with the command is not valid.

**System action**

The command terminates.

**User response**

Correct the keyword for the function to be performed.

**OM8388: INVALID PARAMETER. RESPECIFY *kkkkkkkk* KEYWORD PARAMETER.**

**Explanation**

The parameter specified with keyword *kkkkkkkk* is not valid.

**System action**

The command does not process the parameter.

**User response**

Enter an allowable parameter for the keyword.

**OM8389: RTA NOT OPERATIONAL. INSUFFICIENT PRIVATE REGION. RTA NOT OPERATIONAL. INSUFFICIENT ECSA. RTA NOT OPERATIONAL. VTAM® INTERNAL TRACE INACTIVE. RTA NOT OPERATIONAL. VTAM® NOT AT SUPPORTED LEVEL. RTA NOT OPERATIONAL. RC= *xx* SC= *xxxxxxxx*; CALL CANDLE CORP.**

**Explanation**

The RTA™ command cannot initialize. The message indicates the required action or, in some cases, gives the failure return code and sense code.

**System action**

The command does not operate.

**User response**

Follow the suggestion given in the message text.

**OM8390: TSO RESPONSE TIME ANALYZER NOT INSTALLED; CALL CANDLE CORP.****Explanation**

The RTA command has not been installed in the load library currently being used.

**System action**

The command does not operate.

**User response**

Call IBM Software Support to order the RTA command.

**OM8391: RTA NOT AVAILABLE. LOAD ABEND=xxx-yy FOR OMRTASSS.****Explanation**

The RTA command load module (system level sss) could not be loaded for the reason indicated by the ABEND code xxx and reason code yy.

**System action**

The command does not operate.

**User response**

Correct the situation indicated by the ABEND and reason codes. These codes are documented in *IBM System Messages and Codes*.

**OM8392: RTA WILL NOT UPDATE USER PROFILE FOR THIS SESSION****Explanation**

The RTA command encountered an unexpected situation during initialization with the User Profile Facility, and subsequent RTA updates to the profile during the session are not effective.

**System action**

The command continues as normal. Any changes made (that is, group additions or deletions) are not reflected in a User Profile saved during the current OMEGAMON session.

**User response**

None.

**OM8400: ENTRY NOT FOUND: cccc****Explanation**

The entry requested does not exist.

**System action**

None.

**User response**

Check to make sure that the request is valid.

## **OM8401: INVALID PARAMETER SPECIFIED: *cccc***

### **Explanation**

The error may be due to an invalid keyword or invalid label.

### **System action**

None.

### **User response**

Correct the problem and retry.

## **OM8402: INVALID KEYWORD VALUE: *cccc***

### **Explanation**

The error is due to an invalid value for keyword *cccc*.

### **System action**

None.

### **User response**

Correct problem and retry.

## **OM8403: ERROR DURING UPF INITIALIZATION**

### **Explanation**

An internal error occurred during User Profile Facility initialization.

### **System action**

OMEGAMON continues its initialization processing, but all UPF-related functions are disabled for this session.

### **User response**

Call IBM Software Support.

## **OM8406: SYNTAX ERROR: *reason***

### **Explanation**

A syntax error occurred. The reason for the error is listed.

### **System action**

The command does not execute.

### **User response**

Correct the error and retry.

## **OM8407: COMMAND ERROR: *reason***

### **Explanation**

An error occurred while processing the command. The reason for the error is listed.

### **System action**

The command does not execute.

**User response**

Correct the error, if possible, or call IBM Software Support.

**OM8410: ERROR STORING INTO MEMORY-RESIDENT PROFILE OPTIONS TABLE****Explanation**

An error occurred while OMEGAMON attempted to update the profile options.

**System action**

The user request cannot be completed.

**User response**

Further updates will probably fail. Restart OMEGAMON if immediate resolution is required. If the problem persists, call IBM Software Support.

**OM8411: ERROR READING FROM THE MEMORY-RESIDENT PROFILE OPTIONS TABLE****Explanation**

An error occurred while OMEGAMON attempted to read the profile options.

**System action**

The user request can not be completed.

**User response**

Further profile commands will probably fail. Restart OMEGAMON if immediate resolution is required. If the problem persists, call IBM Software Support.

**OM8420: ERROR UPDATING ASTG TABLE****Explanation**

An error occurred while OMEGAMON attempted to update the memory-resident Address Space Threshold Group table.

**System action**

The user request can not be completed.

**User response**

Further ASG updates will probably fail. Restart OMEGAMON if immediate resolution is required. If the problem persists, call IBM Software Support.

**OM8421: ASTG TABLE INTERNAL ERROR****Explanation**

An error occurred in the memory-resident Address Space Threshold Group table.

**System action**

The user request can not be completed.

**User response**

Further ASG commands will fail. Restart OMEGAMON if immediate resolution is required. If the problem persists, call IBM Software Support.

## **OM8430: ERROR UPDATING DMN TABLE**

### **Explanation**

An error occurred while OMEGAMON attempted to update the memory-resident Domain Name table.

### **System action**

The user request can not be completed.

### **User response**

Further DMN updates will probably fail. Restart OMEGAMON if immediate resolution is required. If the problem persists, call IBM Software Support.

## **OM8440: ERROR UPDATING PGN TABLE**

### **Explanation**

An error occurred while OMEGAMON attempted to update the memory-resident Performance Group Name table.

### **System action**

The user request can not be completed.

### **User response**

Further PGN updates will probably fail. Restart OMEGAMON if immediate resolution is required. If the problem persists, call IBM Software Support.

## **OM8500: CSAF EXECUTES ONLY ONCE PER CYCLE**

### **Explanation**

Only one CSAF command can be on the screen at once.

### **System action**

The CSA Analyzer ignores all subsequent CSAF commands on the screen.

### **User response**

Enter only one CSAF command on the screen.

## **OM8501: SUBPOOL *nnn* IS NOT IN <CSA|ECSA|SQA|ESQA >**

### **Explanation**

Subpool number *nnn* is not in the common storage area specified by the AREA keyword.

### **System action**

The CSA Analyzer ignores the command.

### **User response**

Correct the value of the SUBPOOL keyword or the AREA keyword.

## **OM8502: RANGE DOES NOT OVERLAP CSA OR SQA**

### **Explanation**

The address range specified does not fall into any common storage area.

**System action**

The CSA Analyzer ignores the command.

**User response**

Correct the address range values specified in the RANGE keyword.

**OM8503: SYSTEM AND JOB KEYWORDS ARE MUTUALLY EXCLUSIVE****Explanation**

You cannot specify both SYSTEM and JOB keywords.

**System action**

The CSA Analyzer ignores the command.

**User response**

Enter only the SYSTEM or JOB keyword.

**OM8504: PARAMETER FOR KEYWORD xxxxxxxx IS INVALID****Explanation**

An invalid value for keyword xxxxxxxx was entered.

**System action**

The CSA Analyzer ignores the command.

**User response**

Re-enter the keyword, specifying a valid value.

**OM8505: JOB REQUIRED. ENTER COMMAND WITH JOB PARAMETER****Explanation**

The CSA Analyzer requires a JOB keyword for the command.

**System action**

The CSA Analyzer ignores the command.

**User response**

Re-enter the command, specifying a JOB keyword.

**OM8506: ONLY KEY ZERO IS VALID FOR (E)SQA****Explanation**

You specified a non-zero storage key for SQA or ESQA storage.

**System action**

The CSA Analyzer ignores the command.

**User response**

Re-enter the command, specifying KEY(0).

## **OM8510: NO DATA AVAILABLE**

### **Explanation**

CSAA has no information for the command request.

### **System action**

None.

### **User response**

None.

## **OM8511: CSAA IS NOT ACTIVE**

### **Explanation**

The CSAA manager address space is not running.

### **System action**

The CSA Analyzer ignores the command.

### **User response**

Start the CSAA Manager address space and retry the command. Refer to the *OMEGAMON II for MVS Configuration Guide* for details.

## **OM8512: LOAD OF CSAA SUPPORT MODULE FAILED**

### **Explanation**

The CSA Analyzer did not find a required module for the operation of CSAA.

### **System action**

The CSA Analyzer ignores the command.

### **User response**

Ensure that all CSAA modules reside in the OMEGAMON for MVS load library. Refer to the *OMEGAMON II for MVS Configuration Guide* for details.

## **OM8513: CSAA REPORTER INTERNAL LOGIC ERROR**

### **Explanation**

The CSAA reporter module abended.

### **System action**

The CSA Analyzer ignores the command.

### **User response**

Call IBM Software Support.

## **OM8514: CSAA MANAGER BUSY. TRY AGAIN**

### **Explanation**

The CSAA reporter could not process the command request because the CSAA manager was busy.

**System action**

The CSA Analyzer ignores the command.

**User response**

Retry the command.

**OM8515: CSAA REPORTER ERROR. RC=nnnnnnnn****Explanation**

The CSAA reporter encountered an error.

**System action**

The CSA Analyzer ignores the command.

**User response**

Call IBM Software Support.

**OM8516: <CSA|ECSA|SQA|ESQA> MONITORING IS NOT ACTIVE****Explanation**

CSAA is not monitoring the area specified in the AREA keyword.

**System action**

The CSA Analyzer ignores the command.

**User response**

When you next start the CSAA address space, specify monitoring for the given area. Refer to the *OMEGAMON II for MVS Configuration Guide* for details.

**OM8517: <SYSTEM|JOB> TRENDING IS NOT ACTIVE****Explanation**

CSAA did not gather the necessary trending data.

**System action**

The CSA Analyzer ignores the command.

**User response**

When the CSAA address space is next started, specify trending for SYSTEM or job. Refer to the *OMEGAMON II for MVS Configuration Guide* for details.

**OM8518: VERSION MISMATCH. MANAGER Vmmm. REPORTER Vnnn****Explanation**

The CSA Analyzer Manager's version, *mmm*, does not match the Reporter's version, *nnn*.

**System action**

The CSA Analyzer ignores the command.

**User response**

Ensure that all CSAA modules are at the same version.

## OM8519: FREEMAIN EVENTS MISSED

### Explanation

The CSA Analyzer was unable to record some freemains due to a buffer full condition.

### System action

The CSA Analyzer ignores the command.

### User response

When you next start CSAA, increase its amount of available fixed storage. Refer to the *OMEGAMON II for MVS Configuration Guide* for details.

## OM8520: CSAA UPDATE PROCESSING SUSPENDED AT *mm/dd/yy hh:mm*

### Explanation

The CSA Analyzer has stopped processing.

### System action

The system does not process the command.

### User response

Make sure that the CSA Analyzer started task is running.

## OM8521: OPERAND *<operand>* NOT PERMITTED

### Explanation

The keyed parameter has been recognized but you used it incorrectly as an operand.

### System action

The OMCSAA command processing edits the second and subsequent keyed parameters following the command. Those parameters must be operands which must be syntactical elements of the OMCSAA command argument being processed.

**Note:** The OMCSAA/CSAA arguments that use the JOB and SYSTEM adverbs to distinguish different report processing requirements use two specific sets of operands which are similar but not identical.

### User response

Make the following changes:

1. Remove or correct the indicated operand.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## OM8522: VALUE *<value>* NOT PERMITTED

### Explanation

Some of the OMCSAA keyed parameter specifications are keywords (i.e., they are unique names without an associated assignment value). The OMCSAA/CSAA arguments and the SYSTEM adverb are always keywords. They neither require nor permit an associated assignment value.

### **System action**

Each keyed parameter is edited and evaluated syntactically. Whenever a specification violates a syntax rule, the appropriate OMCSAA diagnostic message is issued.

### **User response**

Make the following changes:

1. Correct the command syntax.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## **OM8523: <operand> IS REQUIRED**

### **Explanation**

You have not declared a required operand and no substitute value assignment is available. The JOB adverb and the AREA operand both lack default assignment values.

### **System action**

When a specific OMCSAA command argument requires a particular operand that you have not supplied, the OMCSAA command processing attempts to provide an assignment value for the missing operand in the following manner:

1. The inherited value, the last value assigned to that operand when an OMCSAA command was processed successfully, is assigned to the current operand.
2. When an inheritable assignment value is a null value, the operand's default value is assigned.
3. When the result is still a null value, a violation occurs and this message is issued.

### **User response**

Make the following changes:

1. Provide the missing operand and value assignment.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## **OM8525: <operand> VALUE NOT NAME**

### **Explanation**

The operand assignment value is not a name.

### **System action**

A name value begins with an alphabetic character (A–Z). The JOB adverb and the AREA operand are associated with alphabetic assignment values.

### **User response**

Make the following changes:

1. Correct the value assignment.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## OM8526: <operand> VALUE NOT NUMERIC

### Explanation

The operand assignment value is not a number.

### System action

A numeric value begins with the decimal digits (0–9) or with hexadecimal digits (A–F). The ASID, SUBPOOL, BOUNDS, MINSIZE, and RANGE operands are all associated with numeric assignment values.

### User response

Make the following changes:

1. Correct the value assignment.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## OM8527: <operand> VALUE LIST NOT PERMITTED

### Explanation

OMEGAMON® does not directly support lists of assignment values.

### System action

The (\*) assignment value is a quasi-list list assignment. You may specify only the ASID and SUBPOOL operands with the (\*) assignment value.

### User response

Make the following changes:

1. Correct the value assignment.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## OM8530: ARGUMENT <text> NOT RECOGNIZED

### Explanation

Each argument is a keyword which must be specified immediately after the command on the command line. The keyed parameter is not recognized as a valid OMCSAA specification if an argument is required.

### System action

The OMCSAA command processing edits the first keyed parameter following the command. That parameter must be an argument.

**Note:** The OMCSAA/CSAF command is an exception to this rule.

### User response

Make the following changes:

1. Correct the command specifications.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## **OM8531: OPERAND <text> NOT RECOGNIZED**

### **Explanation**

Each operand is a keyword which must be entered as documented. Each operand is associated with a specific abbreviation.

### **System action**

Operand specifications that are neither the acceptable full text nor the acceptable abbreviation are rejected.

### **User response**

Make the following changes:

1. Correct the command specifications.
2. Remove the command inhibit character (>).
3. Resubmit the command.

## **OM8540: INSUFFICIENT MEMORY. REQUEST NOT PROCESSED**

### **Explanation**

The OMCSAA/CSAA DETAIL command may generate a significant number of CSA Events Extract Records. The nominal OMCSAA CSA Events Extraction Work Area is only 5120 bytes. OMCSAA has logic that will acquire a larger Extraction Work Area but that logic is conditional.

### **System action**

OMCSAA command logic inhibits the automatic acquisition of a larger Extraction Work Area in order to minimize the overhead generated by continually issuing GETMAIN requests to the operating system. last request.

### **User response**

Either restrict the scope of the request or resubmit the command with the OMEGAMON action character in column 1.

## **OM8541: INSUFFICIENT MEMORY. <xxxxxx> KB ADDITIONAL MEMORY REQUIRED**

### **Explanation**

The OMCSAA/CSAA Events Extract Work Area may be expanded but the expansion requires allocatable memory in SUBPOOL (0).

### **System action**

OMCSAA command processing has attempted to acquire the memory required to support the Extract Work Area. There is not enough memory available in SUBPOOL (0).

### **User response**

Either restrict the scope of the OMCSAA/CSAA DETAIL command or re-initialize a new OMEGAMON session with a larger REGION size.

## **OM8542: SCREEN OUTPUT EXCEEDS LROWS LIMIT**

### **Explanation**

Irrespective of the size of the OMCSAA/CSAA Events Extract Work Area, the ultimate limit upon the ability of OMEGAMON to display the CSA Analyses is the number of logical lines of display.

**System action**

There are more lines of data to be displayed than OMEGAMON can support.

**User response**

Either restrict the scope of the OMCSAA/CSAA DETAIL command or re-initialize a new OMEGAMON session with a larger LROWS size.

**Note:** The additional memory required to support a larger number of logical lines of display may reduce the ability to extract the analytical data from the CSA Events Database.

**OM8550: NOT ENOUGH MEMORY FOR WORKAREA - *nnnnnn*K NEEDED.****Explanation**

The specified command could not obtain a work area.

**System action**

The command terminates.

**User response**

Increase the region size of the address space by a minimum of *nnn*K. Alternatively, use the DATA minor of SEEK to decrease the work size area by *nnn*K.

**OM8551: WARNING WSIZ TOO SMALL - ADDR= *xxxxxxxx* SIZE= *nnnn* USED= *nnnn*.****Explanation**

The SEEK SRB to collect data failed to complete its task because the data area it needed was small.

**System action**

None.

**User response**

Use the DATA minor of SEEK to increase the work area.

**OM8552: DEVICE INVALID OR OFFLINE****Explanation**

The specified device either was not found in the UCB lookup table, or was found to be marked offline.

**System action**

Command execution terminates.

**User response**

Specify a valid volume or vary volume online.

**OM8553: WARNING; *cccc* FAILED VALIDITY CHECK****Explanation**

The specified control block (ASCB, TCB, DSAB, JFCB, or JFCX) failed validation in the SRB routine for DATA minor of SEEK.

**System action**

DATA minor of SEEK does not collect data set information for the address space which has failed validation.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OM8555: WARNING INVALID RETURN CODE = xxxxxxxx (FROM DATA minor of SEEK COMMAND)****Explanation**

The SRB to collect data failed to complete its task and returned an invalid return code to the user.

**System action**

Command execution terminates.

**User response**

Call IBM Software Support to report a possible problem.

**OM8556: INVALID PARAMETER SPECIFIED.****Explanation**

An invalid parameter was encountered on the SEEK or DATA command line.

**System action**

The command is terminated.

**User response**

Check the syntax and respecify with the correct parameter.

**OM8557: VOLSER OR DEVICE PARAMETER REQUIRED.****Explanation**

The volsr or device address required by SEEK has not been specified.

**System action**

None.

**User response**

Specify the volsr or device address and reissue the command.

**OM8558: SPECIFIED ITEM NOT FOUND.****Explanation**

A seek operation was not observed on the sample number specified in the ITEM parameter, or no seek operations were observed for the specified jobname.

**System action**

No detail data items are displayed.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OM8559: WARNING INVALID INTERVAL TIME SPECIFIED.****Explanation**

The specified sample interval must be between 5 and 500 milliseconds.

**System action**

Processing continues with the default of 5 milliseconds assumed.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OM8560: WARNING INVALID SAMPLE COUNT SPECIFIED.****Explanation**

The specified sample count was greater than 100.

**System action**

Processing continues with the maximum of 1000 samples assumed.

**User response**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**OM20001: OM2INIT HAS BEEN ENTERED****Explanation**

Informational message concerning the progress of initialization.

**System action**

None.

**User response**

None.

**OM20002: OM2CVT ADDRESS = *hhhhhhh*****Explanation**

Informational message displaying the address of the communications vector table.

**System action**

None.

**User response**

None.

## **OM20003: MODULE FAILED LOAD *modname***

### **Explanation**

During initialization, a number of functions must be loaded into storage. The message indicates that the module *modname* was not loaded into storage.

### **System action**

OMEGAMON II for MVS cannot proceed without all functions available; therefore, the initialization is canceled.

### **User response**

This is probably an installation problem. Review the installation process for errors.

## **OM20004: KM2RULE MODULE FAILED RC = *rc***

### **Explanation**

The rules database must be loaded into storage during installation. The message indicates that the function responsible for KM2RULE failed and gave a return code of *rc*.

### **System action**

OMEGAMON II for MVS cannot proceed without all data available; therefore, the initialization is canceled.

### **User response**

This is probably an installation problem. Review the installation process for errors.

## **OM20005: RULES TABLE ADDR = *hhhhhhh***

### **Explanation**

Informational message indicating the address of the rules table.

### **System action**

None.

### **User response**

None.

## **OM20006: GLOBAL DATA ARRAY ADDR = *hhhhhhh***

### **Explanation**

Informational message indicating the address of the global data area.

### **System action**

None.

### **User response**

None.

## **OM20007: RULE DEFINED TO OM2ROUTER, ADDR= *hhhhhhh* NAME= *rulename***

### **Explanation**

Informational message indicating the storage address that has been assigned to a rule.

**System action**

None.

**User response**

None.

**OM20008: OM2\_DEFINE FAILED, RC= rcADDR RULE= *hhhhhhh*****Explanation**

The rule at address *hhhhhhh* could not be defined, and the error return code was *rc*.

**System action**

The initialization has been canceled due to insufficient data.

**User response**

This is probably an installation problem. Review the installation process for errors.

**OM20009: OM2INIT COMPLETE****Explanation**

Informational message concerning the progress of initialization.

**System action**

None.

**User response**

None.

**OM20010: OM2OPEN HAS BEEN ENTERED****Explanation**

Informational message concerning the progress of initialization.

**System action**

None.

**User response**

None.

**OM20011: OM2SCVT ADDR = *hhhhhhh*****Explanation**

Informational message indicating the address of the secondary communications vector table.

**System action**

None.

**User response**

None.

## OM20012: VTAM® FAILURE SENSE CODE= xxx

### Explanation

OMEGAMON II for MVS needs to log onto the realtime collector. The message indicates that the connection was not successful. VTAM® provides a sense code which can help diagnose the problem.

### System action

The session ends.

### User response

This is most often a setup problem. Check to make sure that the realtime collector is running and that the VTAM® controls are properly activated. The sense code '100A0000' indicates that the VTAM® name of the collector (luname) is missing or inactive.

**Note:** See message KLVVT251 for complete return code information.

Refer to the IBM® *Systems Network Architecture Format and Protocol Reference Manual* for further information.

## OM20013: OM2OPEN HAS COMPLETED

### Explanation

Informational message concerning the progress of initialization.

### System action

None.

### User response

None.

## OM20016: OM2CLOSE HAS BEEN ENTERED

### Explanation

Informational message concerning the progress of initialization.

### System action

None.

### User response

None.

## OM20017: SESSION NO LONGER ACTIVE WITH *luname*

### Explanation

The user is logging off the session. The connection to the real time collector must also be closed. *luname* is the VTAM® application name of the realtime collector.

### System action

None.

### User response

None.

## **OM20018: OM2CLOSE HAS COMPLETED**

### **Explanation**

Informational message concerning the progress of initialization.

### **System action**

None.

### **User response**

None.

## **OM22001: M2SESS HAS BEEN ENTERED**

### **Explanation**

Informational message concerning the progress of initialization. Module M2sess routine has been entered.

### **System action**

None.

### **User response**

None.

## **OM22002: NOW USING PROFILE *pp***

### **Explanation**

This is an informational message indicating that the user requested an alternate collector profile using the Signon Panel logon options (F11).

### **System action**

None.

### **User response**

Check to make sure that the correct profile is being used.

## **OM22003: COLLECTOR SESSION ESTABLISHMENT FAILURE**

### **Explanation**

M2SESS attempted to connect to each of the three lunames specified in *rhilev.RKANPARU(KM2IPARM)* None were successful.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

Determine if the *rhilev.RKANPARU(KM2IPARM)* lunames are spelled correctly. If so, determine if the required applications have been started and the application names have been varied active.

## **OM22004: PURGE EXIT CREATION FAILURE**

### **Explanation**

M2SESS failed to establish a purge exit to keep track of cases when the terminal is lost.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

This is an internal error. Notify IBM Software Support.

**OM22005: PURGE EXIT CREATED FOR PHYSICAL DEVICE****Explanation**

This is an informational message indicating that M2SESS successfully established a purge exit to keep track of cases when the terminal is lost.

**System action**

None.

**User response**

None.

**OM22006: OMEGAMON COPYRIGHT SCREEN RECEIVE FAILURE****Explanation**

M2SESS failed to read the first screen (a copyright notice).

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22007: LOGON SCREEN SEND FAILURE****Explanation**

M2SESS attempted to send the logon commands to the realtime collector. The send did not complete successfully.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22008: LOGON SCREEN RECEIVE FAILURE****Explanation**

M2SESS attempted to read a realtime collector screen. The receive did not complete successfully.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22009: OMEGAMON REJECTED USERS LOGON ATTEMPT****Explanation**

M2SESS attempted to understand a realtime collector screen.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check that *rhilev*.RKANPARU(KM2IPARM) specifies a correct realtime collector. If not, it may be a communications error. Additionally, the failure may be due to insufficient authority to logon OMEGAMON; check with your security administrator. Also, check the RKLVSnap data set for additional diagnostic information.

**OM22010: COLLECTOR PROFILE(pp) REQUESTED(qq)****Explanation**

M2SESS determined that the realtime collector profile is different from the one requested.

**System action**

The attempt to logon is continued.

**User response**

Check that DATA=YES is specified for the realtime collector. DATA=NO would cause the requested profile to be ignored. Check also if the profile exists in the real time collector profile libraries.

**OM22013: LOG SEND FAILURE****Explanation**

M2SESS attempted to send the LOG command to the realtime collector, to turn on screen logging. The send did not complete successfully.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22014: LOG RECEIVE FAILURE****Explanation**

M2SESS attempted to receive the screen following the LOG command. The receive did not complete successfully.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22015: COMMAND SEND FAILURE****Explanation**

M2SESS attempted to send a command to the realtime collector. The send did not complete successfully.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22016: COMMAND RECEIVE FAILURE****Explanation**

M2SESS attempted to read the screen following a command to the realtime collector. The receive did not complete successfully.

**System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

**User response**

Check to see if your VTAM® parameters have been set up correctly.

**OM22017: SESSION ESTABLISHED WITH *luname* FOR USER *userid*****Explanation**

Informational message concerning progress of the initialization. *luname* is the realtime collector luname and *userid* is the userid which has been used to logon to the realtime collector.

**System action**

None.

**User response**

None.

**OM22018: M2SESS ROUTINE COMPLETE****Explanation**

The connection between OMEGAMON® for MVS™ and OMEGAMON II for MVS has completed.

**System action**

None.

**User response**

None.

## **OM22019: M2SESS: LROWS(XXXX) INVALID; SESSION TERMINATED**

### **Explanation**

M2SESS determined that the LROWS parameter was invalid.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

Correct the LROWS value in *rhilev.RKANPARU(KM2IPARM)*.

## **OM22020: M2SESS: LROWS(XX) IS TOO SMALL AND MINIMUM IS 99; SESSION TERMINATED**

### **Explanation**

M2SESS determined that the LROWS parameter was invalid.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

Correct the LROWS value in *rhilev.RKANPARU(KM2IPARM)*.

## **OM22021: OMEGAMON® COPYRIGHT SCREEN TOO SMALL, DATA(XXXX)**

### **Explanation**

The expected OMEGAMON® copyright screen was not received.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

Check to see if your VTAM® parameters have been set up correctly.

## **OM22022: LOGMODE xxxxxxxx INVALID. MUST NOT BE QUERABLE.**

### **Explanation**

The expected OMEGAMON® copyright screen was not received.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

The LOGMODE for the terminal being used must not be queriable.

## **OM22023: LOGON FAILED, OM SECURITY NOT INSTALLED**

### **Explanation**

The logon to OMEGAMON® failed.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

Refer to the *OMEGAMON II for MVS Configuration Guide* for how to install command level security.

## **OM22024: LOGON TO OMEGAMON® FAILED; SEE RKLVS NAP**

### **Explanation**

The logon to OMEGAMON® failed.

### **System action**

The attempt to logon to the realtime collector has ended. After the error message is displayed, the user is terminated.

### **User response**

Check the RKLVS NAP data set for diagnostic information.

## **OM22030: SUBTASK COLLECTOR SESSION ESTABLISHMENT FAILURE**

### **Explanation**

The attempt to establish a session with the OMEGAMON subtask realtime collector failed.

### **System action**

The user is terminated.

### **User response**

Call IBM Software Support and have the RKLVLOG messages available.

## **OM22031: SESSION ESTABLISHED WITH OMEGAMONSUBTASK FOR USER *userid***

### **Explanation**

Informational message concerning progress of the initialization. *userid* is the userid which has been used to logon to the realtime collector.

### **System action**

None.

### **User response**

None.

## **OM22032: OMEGAMON SUBTASK TERMINATED FOR USER *userid***

### **Explanation**

Informational message indicating that the connection between OMEGAMON and OMEGAMON II has been terminated for *userid*.

### **System action**

None.

### **User response**

None.

## **OM22033: \$OMON START RETURNED RC=*nn*, R0=*nn***

### **Explanation**

A session with the OMEGAMONSUBTASK could not be started.

### **System action**

The user is terminated.

### **User response**

Call IBM Software Support and have the RKLVLLOG messages available.

## **OM22034: \$OMON RCV RETURNED RC=*nn***

### **Explanation**

A receive from the OMEGAMON SUBTASK failed.

### **System action**

User session is terminated.

### **User response**

This is an internal error. Notify IBM Software Support.

## **OM22035: \$OMON SEND RETURNED RC=*nn***

### **Explanation**

A send to the OMEGAMON SUBTASK failed.

### **System action**

User session is terminated.

### **User response**

This is an internal error. Notify IBM Software Support.

## **OM22036: WARNING - PUTVAR FOR KM2DEHDL RETURNED RC=*nn***

### **Explanation**

The user's session identification for the OMEGAMON® SUBTASK could not be saved.

**System action**

User session is terminated.

**User response**

This is an internal error. Notify IBM Software Support.

**OM22037: SESSION TERMINATED WITH *applid* FOR USER *userid*****Explanation**

Informational message indicating that the connection between OMEGAMON and OMEGAMON II has been terminated for *userid*.

**System action**

None.

**User response**

None.

**OMV001I: OBVTAM VERSION *Vnnn* INITIALIZATION****Explanation**

The OBVTAM support program, version *nnn*, is initializing.

**System action**

OBVTAM processing continues.

**User response**

None.

**OMV002I: APPL *applid* OPENED SUCCESSFULLY****Explanation**

The OPEN macro for the VTAM® ACB was successful.

**System action**

Initialization processing continues.

**User response**

None. OBVTAM is ready to accept logons.

**OMV003I: APPL *ccccccc* FAILED TO OPEN - *reason*****Explanation**

OBVTAM attempted to open an ACB to VTAM® with the identifier *ccccccc*. The attempt failed for the reason specified.

**System action**

If the reason is a retryable condition (for example, if the network APPL is inactive at the time OBVTAM attempts access), OBVTAM retries the operation for up to 30 minutes. Otherwise, OBVTAM terminates.

**User response**

The reasons that appear follow. Take the appropriate action for the reason that appears with this message.

## **OMV003I(cont.): APPL ALREADY OPEN**

### **Explanation**

Another z/OS® job or started task has the OBVTAM network APPL allocated.

### **System action**

OBVTAM terminates.

### **User response**

Contact the VTAM® systems programmer at your installation.

## **OMV003I(cont.): APPL IS INACTIVE**

### **Explanation**

OBVTAM attempted to open an ACB to VTAM® for an network APPL that was inactive.

### **System action**

OBVTAM attempts access again for up to 30 minutes.

### **User response**

Activate the network APPL.

## **OMV003I(cont.): APPL IS IN CLEANUP**

### **Explanation**

VTAM® has not completed recovery processing after an OBVTAM failure.

### **System action**

Once VTAM® processing is complete, the network APPL becomes available to OBVTAM automatically.

### **User response**

None. This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **OMV003I(cont.): APPL NOT DEFINED**

### **Explanation**

The OBVTAM APPL was not defined to VTAM®.

### **System action**

OBVTAM terminates.

### **User response**

Contact the VTAM® systems programmer at your installation to define an APPL to VTAM® for OBVTAM. Restart OBVTAM.

## **OMV003I(cont.): VTAM® ERROR CODE *nn***

### **Explanation**

The error code associated with the VTAM® OPEN ACB process was *nn*.

**System action**

If the error code is 14, OBVTAM retries the operation for up to 30 minutes. Otherwise, OBVTAM terminates.

**User response**

Write down the VTAM® error code and contact the VTAM® systems programmer at your installation, or contact IBM Software Support.

**OMV003I(cont.): VTAM® IS NOT ACTIVE****Explanation**

OBVTAM was started before VTAM®.

**System action**

OBVTAM attempts to open the network APPL for up to 30 minutes.

**User response**

Start VTAM®, then restart OBVTAM.

**OMV004I: OBVTAM MUST BE APF AUTHORIZED TO BE NON-SWAPPABLE****Explanation**

The OBVTAM start parameter included SWAP=N, but OBVTAM cannot mark itself non-swappable without APF authorization.

**System action**

OBVTAM processing continues, but OBVTAM will remain non-swappable.

**User response**

If you want OBVTAM to be non-swappable, restart it from an APF-authorized library.

**OMV005I: ccccccc FM/TS PROFILE *nnnn* NOT SUPPORTED****Explanation**

Secondary Logical Unit *ccccccc* tried to establish a session using a VTAM® Logmode that specifies an FM/TS session profile of *nnnn*. OBVTAM supports FM/TS profiles 0303 and 0202 only.

**System action**

OBVTAM rejects the session request from SLU *ccccccc*.

**User response**

Select a VTAM® Logmode which specifies a supported FM/TS profile, or select an alternate device.

**OMV006I: SESSION ESTABLISHED FOR *aaaaaaaa/bbbbbbbb*****Explanation**

A VTAM® session was established between OBVTAM (network identifier *aaaaaaaa*) and Secondary Logical Unit *bbbbbbbb*.

**System action**

OBVTAM processing continues; initialization starts for an OMEGAMON session.

**User response**

None.

**OMV007I: SESSION INITIATION FAILED FOR *aaaaaaaa/bbbbbbbb: cc dddd eeee  
ffff*****Explanation**

The initiation of a session between OBVTAM (network identifier *aaaaaaaa*) and Secondary Logical Unit *bbbbbbbb* failed. The VTAM® status associated with the request is:

**cc**

VTAM® request code

**dddd**

VTAM® return code information

**eeee**

SNA system sense field

**ffff**

SNA user sense field

**System action**

OBVTAM rejects the session request from SLU *bbbbbbbb*.

**User response**

Refer the VTAM® status information to your Network Support group or contact IBM Software Support for assistance.

**OMV008I: KOBDSQZ MODULE NOT FOUND. NO DATA COMPRESSION****Explanation**

The program module KOBDSQZ was not found in the OBVTAM program library.

**System action**

OBVTAM processing continues, but the 3270 data stream created by OMEGAMON will not be compressed for those sessions that requested data compression.

**User response**

Contact IBM Software Support for assistance.

**OMV009I: ROWS/COLS IN CONFLICT WITH VTAM® LOGMODE *ccccccc*****Explanation**

The ROWS= and/or COLS= OMEGAMON startup parameter does not match VTAM®'s definition for the terminal. The VTAM® logmode used to start the session was *ccccccc*.

**System action**

OBVTAM displays the OBUSRMSG panel and then terminates.

**User response**

Correct the values of the OBVTAM startup parameter or select another VTAM® logmode that is the same as the OBVTAM startup parameter.

## OMV010I: TIMEOUT KEYWORD VALUE INVALID - SET TO 0

### Explanation

The value of the OBVTAM start parameter keyword TIMEOUT was not in the range 0–99.

### System action

Processing continues.

### User response

OBVTAM sets the TIMEOUT value to 0, and idle OMEGAMON sessions are not subject to timeout cancellation.

### User response

Correct the TIMEOUT value and restart OBVTAM.

## OMV012I: OMEGAMON SESSION TIMEOUT - cccccccc

### Explanation

The OMEGAMON session with terminal cccccccc was idle for the length of time specified on the TIMEOUT parameter.

### System action

OBVTAM cancels the idle session.

### User response

You may start another session.

## OMV013I: WSF (QUERY) TIMEOUT - cccccccc

### Explanation

Terminal cccccccc has not replied to the WSF (Query) sent by OBVTAM.

### System action

OBVTAM terminates the session with terminal cccccccc.

### User response

Configure terminal cccccccc to support WSF (Query) or select a VTAM® logmode that does not indicate that WSF (Query) is supported.

## OMV014I: SESSION SECURITY MODULE [NOT IN USE | {[KOCARACF | KOB SAF00] *build\_timestamp*}]

### Explanation

During OMEGAMON Classic session initialization, this message provides security-related information for the session, where:

- NOT IN USE indicates that a session security module is not used.
- KOCARACF Build: *mm/dd/yy-hh.mm* indicates the use of module KOCARACF, which is used when password security is configured. The timestamp when the module was built is provided.
- KOB SAF00 Build: *mm/dd/yy-hh.mm* indicates the use of module KOB SAF00, which is used when passphrase security is configured. The timestamp when the module was built is provided.

**System action**

OBVTAM processing continues; initialization starts for the OMEGAMON session.

**User response**

None.

**OMV020I: UMAX Maximum 3270 Sessions is *nnn*****Explanation**

The maximum number of concurrent users that can be logged on is shown.

**System action**

Initialization processing continues.

**User response**

None. OBVTAM is ready to accept logons if the current session count is less than the maximum value.

**OMV980I: SESSION REQUEST FAILED FOR *cccccccc/aaaaaaaa* - INSUFFICIENT MEMORY****Explanation**

OBVTAM (application *cccccccc*) failed to obtain enough memory to establish a session with terminal *aaaaaaaa*.

**System action**

OBVTAM rejects the session request from terminal *aaaaaaaa*.

**User response**

It may be possible to start a session by using a terminal with a smaller screen size, or by eliminating the use of 3270 data stream compression. Specify DC=N as part of the OBVTAM startup parameter to eliminate data compression. If the session still cannot be started, it may be necessary to increase the value of the z/OS® REGION SIZE to make more memory available to OBVTAM.

**OMV981I: DEVICE ERROR *aaaaaaaa* DETECTED FOR *bbbbbbbb/cccccccc*****Explanation**

OBVTAM (network identifier *bbbbbbbb*) received device status information from Secondary Logical Unit *cccccccc*. The information *aaaaaaaa* is the status value received in an SNA LUSTAT command.

**System action**

OBVTAM terminates the session with SLU *cccccccc*.

**User response**

Refer the LUSTAT information to your Network Support group or contact IBM Software Support for assistance.

**OMV982I: GETMAIN FAILED - INCREASE REGION SIZE****Explanation**

There is insufficient region size for OMEGAMON to obtain buffers.

**System action**

OMEGAMON aborts the session start.

### User response

See your installer to increase the region size.

**OMV983I: OM= KEYWORD INVALID - MODULE *aaaaaaaa* NOT FOUND *bbbbbbbb*/  
*cccccccc***

### Explanation

The module specified by the OM session start parameter could not be found by OBVTAM (network identifier *bbbbbbbb*). Module *aaaaaaaa* was specified explicitly or by default.

### System action

OBVTAM terminates the session with SLU *cccccccc*.

### User response

Include module *aaaaaaaa* in the OBVTAM runtime program library or specify a different module with the OM session start parameter.

**OMV984I: EXTENDED ATTRIBUTE ERROR *aaaa bbbb* DETECTED FOR *cccccccc***

### Explanation

Secondary Logical Unit *cccccccc* rejected a screen sent to it by OMEGAMON. The screen may have contained extended color or highlighting attributes. The VTAM® status associated with the error is: *aaaa* - SNA system sense field and *bbbb* - SNA user sense field.

### System action

OBVTAM terminates the session with SLU *cccccccc*.

### User response

Verify that the terminal supports extended attributes and is properly defined to VTAM®. If the terminal does not support extended color, the OMEGAMON session cannot be used with extended color support turned on. If the problem persists, refer the VTAM® status information to your Network Support group or contact IBM Software Support for assistance.

**OMV986I: SESSION ERROR *aa bbbb cccc dddd* FOR *eeeeeeee/ffffff***

### Explanation

An error occurred on the session between OBVTAM (network identifier *eeeeeeee*) and Secondary Logical Unit *ffffff*. The VTAM® status associated with the error is:

**aa**

VTAM® request code

**bbbb**

VTAM® return code information

**cccc**

SNA system sense field

**dddd**

SNA user sense field

### System action

OBVTAM terminates the session with SLU *ffffff*.

**User response**

Refer the VTAM® status information to your Network Support group or contact IBM Software Support for assistance.

**OMV987I: VTAM® ACB CLOSE FAILED; RETURN CODE=*rc*, REASON CODE=*rs*****Explanation**

VTAM® close processing failed as indicated.

**System action**

OBVTAM terminates.

**User response**

Contact IBM Software Support.

**OMV988I: UNABLE TO START OBVTAM SESSION (REASON CODE *rs*)****Explanation**

An error occurred while trying to start the VTAM® session, possibly because of lack of storage.

**System action**

OBVTAM terminates.

**User response**

Try to increase region size in the startup JCL. If failure recurs, contact IBM Software Support.

**OMV989I: TPEND EXIT-*code* DRIVEN FOR *applid*****Explanation**

Either a network shutdown is in progress, or the user has varied the OBVTAM network APPL inactive.

**System action**

Normally none.

**User response**

If this message recurs, contact IBM Software Support.

**OMV990I: INVALID LOGON PASSWORD FOR *applid/sluname*****Explanation**

The password specified in the LOGON DATA parameter does not match the password in the PARM string.

**System action**

OBVTAM terminates the logon process.

**User response**

Determine the correct password and retry.

## **OMV992I: SESSION cccccccc - PGM CHK xxxx yyyyyyyy, aaaa + bbbb**

### **Explanation**

OBVTAM encountered a program error while processing the session with terminal cccccccc. The variable message is defined as follows: *xxxx* is the program check interrupt code, *yyyyyyy* is the address where the program check occurred, *aaaa* is the module name where the program check occurred, and *bbbb* is the module offset where the program check occurred.

### **System action**

OBVTAM terminates.

### **User response**

Record the message and contact IBM Software Support. You may restart the session.

## **OMV994I: TERMINATION REQUESTED BY bbbbbbbb - REASON CODE xx**

### **Explanation**

The Secondary Logical Unit *bbbbbbbb* requested to terminate the VTAM® session between itself and OBVTAM. The VTAM® reason code was *xx*.

### **System action**

OBVTAM terminates the OMEGAMON session and then terminates the VTAM® session.

### **User response**

This may or may not indicate a problem. If the message persists, refer the VTAM® reason code information to your Network Support group or contact IBM Software Support for assistance.

## **OMV996I: SESSION TERMINATED FOR aaaaaaaa/bbbbbbbb**

### **Explanation**

The VTAM® session between OBVTAM (network identifier *aaaaaaa*) and Secondary Logical Unit *bbbbbbb* ended.

### **System action**

OBVTAM processing continues; OBVTAM will accept a new session request from any SLU.

### **User response**

None.

## **OMV997I: SESSION TERMINATION FAILED FOR aaaaaaaa/bbbbbbbb: cc dddd eeee ffff**

### **Explanation**

Session termination processing between OBVTAM (network identifier *aaaaaaa*) and Secondary Logical Unit *bbbbbbb* failed. The VTAM® status associated with the request is

#### **cc**

VTAM® request code

#### **dddd**

VTAM® return code information

#### **eeee**

SNA system sense field

**ffff**

SNA user sense field

**System action**

OBVTAM stops servicing the session with SLU *bbbbbbbb*.

**User response**

Refer the VTAM® status information to your Network Support group or contact IBM Software Support for assistance.

**OMV998I: STOP COMMAND CAUSES TERMINATION FOR *applid***

**Explanation**

The systems programmer issued an z/OS® STOP console command, instructing OBVTAM to terminate and all OMEGAMON sessions that are currently active beneath it.

**System action**

OBVTAM begins termination processing.

**User response**

None. This is an informational message about a normal OBVTAM condition.

**OMV999I: OBVTAM ENDED**

**Explanation**

The OBVTAM support program ended.

**System action**

OMEGAMON terminates.

**User response**

None. This is an informational message about a normal OBVTAM condition.

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## Messages shared by distributed and z/OS® components

Because the Tivoli Enterprise Monitoring Server can run on both distributed platforms and z/OS®, this component has some messages that can appear in both distributed logs and in the RKLVLLOG on z/OS®. These shared Tivoli Enterprise Monitoring Server messages can have the following prefixes:

- KDC
- KDS
- KFA
- KMS
- KO4
- KQM

[“Log locations for the Tivoli Enterprise Monitoring Server” on page 2298](#) shows the locations of logs for Tivoli Enterprise Monitoring Server on distributed platforms and z/OS®.

This table provides the locations of the logs for the Tivoli Enterprise Monitoring Server.

Table 138: Log locations for the Tivoli Enterprise Monitoring Server		
Component	Windows® systems	UNIX-based systems
Tivoli Enterprise Monitoring Server on a distributed platform message logs	<p><code>\install_dir\cms\kdsmain.msg</code></p> <p>Where <code>install_dir</code> specifies the directory where Tivoli Enterprise™ Portal Server was installed.</p>	<p><code>install_dir/logs/hostname_ms_timestamp.msg</code></p> <p>Where:  <b>install_dir</b>  Specifies the directory where Tivoli Enterprise™ Portal Server was installed.</p> <p><b>hostname</b>  Specifies the name of the system hosting the product</p> <p><b>ms</b>  Indicates that these messages are for the Tivoli Enterprise™ Portal Server.</p> <p><b>timestamp</b>  A decimal representation of the time at which the process was started.</p>
Tivoli Enterprise Portal Server on a distributed platform trace logs	<p><code>\install_dir\logs\kfwservices.msg</code></p> <p>Where:  <b>install_dir</b>  Specifies the directory where Tivoli Enterprise™ Portal Server was installed.</p>	<p><code>install_dir/logs/kfwservices.msg</code></p> <p>Where:  <b>install_dir</b>  Specifies the directory where Tivoli Enterprise™ Portal Server was installed.</p>
Tivoli Enterprise Monitoring Server on z/OS®	<p>RKLVLOG for the Tivoli Enterprise Monitoring Server on z/OS® is the single most helpful piece of service information available for the monitoring server. The RKLVLOG (R = runtime, KLV = the prefix associated with Tivoli® Monitoring Services: Engine or TMS:Engine) is the sysout data set or spool file that contains log and trace messages.</p> <p>These additional zSeries® log files (if available) are also useful:</p> <ul style="list-style-type: none"> <li>• The RKLVSnap sysout data set or spool file contains formatted dump output.</li> <li>• The RKPLOG sysout data set or spool file contains the information and error messages related to the handling of persistent data stores.</li> <li>• The RKPLOG contains KPDXTRA log messages for debugging persistent data store problems.</li> <li>• The JES2 and JES3 system log contains information about JES issues.</li> </ul> <p>Refer to your JCL started task procedures for the locations of these serviceability log files.</p>	

## KDS messages

Messages that begin with the KDS prefix are associated with the Tivoli Enterprise™ Monitoring Server on both z/OS® and distributed platforms.

**KDS9101I: System Name: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9102I: Program Name: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9103I: Process ID: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9104I: User Name: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9105I: Job Name: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9106I: Task Name: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9107I: System Type: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9108I: CPU Count: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9109I: Page Size: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9110I: Physical Memory: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9111I: Virtual Memory: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9112I: Page Space: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9113I: Service Point: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9114I: ITM Home: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9115I: Executable Name: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9116I: KBB\_RAS1: *variable*****Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KDS9117I: KBB\_RAS1\_LOG: *variable***

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KDS9118I: Node ID: *variable***

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KDS9119I: Build: *variable***

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KDS9131E: The table name *variable* for application *variable* was not found.**

#### **Explanation**

A table name specified in a query for the specified application was not found. Possible installation or configuration error.

#### **Operator response**

Verify that the application support files for the specified application have been installed on the server machine where this message was logged.

### **KDS9133E: Column *variable* in table *variable* for application *variable* was not found.**

#### **Explanation**

A query was issued that included the specified column in the specified table for the specified application. The specified column was not found in the specified table. Possible installation or configuration error.

#### **Operator response**

Verify that the correct version of the application support files for the specified application have been installed on the server machine where this message was logged.

### **KDS9134E: Change key column *variable* in table *variable* for application *variable* was not found.**

#### **Explanation**

A query was issued that included the specified key column in the specified table for the specified application. The specified key column was not found in the specified table. Possible installation or configuration error.

#### **Operator response**

Verify that the correct version of the application support files for the specified application have been installed on the server machine where this message was logged.

**KDS9141I: The TEMS *variable* is connected to the hub TEMS *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9142I: The TEMS *variable* is disconnected from the hub TEMS *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDS9143I: An initial heartbeat has been received from the TEMS *variable* by the hub TEMS *variable*.**

**Explanation**

A regularly scheduled heartbeat is used by the Tivoli Enterprise™ Monitoring Server to monitor the status of connected nodes as well as itself. As a result, in some cases the sender and receiver of the heartbeat may both be the hub Tivoli Enterprise™ Monitoring Server.

**KDS9144I: A shutdown notification has been received from the TEMS *variable* by the hub TEMS *variable*.**

**Explanation**

This message indicates a normal shutdown of the specified Tivoli Enterprise™ Monitoring Server. In some cases the sender and receiver of the notification may both be the hub Tivoli Enterprise™ Monitoring Server.

**KDS9150I: The TEMS Sitmon thread is BUSY. Process *variable* has been in the BUSY state for longer than *variable* seconds.**

**Explanation**

The Tivoli Enterprise™ Monitoring Server Sitmon thread has been busy longer than is expected under a normal load. When this condition clears message KDS9152I will be logged.

**Operator response**

If this conditions persists for longer than an hour, contact IBM® Service Support.

**KDS9151E: The heartbeat from remote TEMS *variable* was not received at its scheduled time and the remote TEMS has been marked offline.**

**Explanation**

A heartbeat signal is sent from the remote Tivoli Enterprise™ Monitoring Server to the hub Tivoli Enterprise™ Monitoring Server on a regular schedule to indicate the status of the remote Tivoli Enterprise™ Monitoring Server. The remote TEMS specified failed to send its heartbeat at the scheduled time and has been marked offline by the hub Tivoli Enterprise™ Monitoring Server.

**Operator response**

Verify that the specified remote Tivoli Enterprise™ Monitoring Server is running and if not, restart it. Verify network connectivity between the hub and remote Tivoli Enterprise™ Monitoring Server. Verify the Tivoli Enterprise™ Monitoring Server installation and configuration.

## **KDS9152I: The TEMS Sitmon thread BUSY condition has cleared.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server Sitmon thread is no longer BUSY.

## **KDSDC001: Initial load of the TEMS Catalog now in progress.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server is loading its runtime Catalog data set. No other activity takes place during this load. The loading process could take as long as 2 minutes, depending on the number of applications installed.

### **Operator response**

This message is followed by another message when the loading is completed.

## **KDSDC002: Initial load of the TEMS catalog complete.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server has completed the loading of its runtime Catalog data set.

## **KDSDC003: Updating the catalog is not allowed without a catalog cache.**

### **Explanation**

The catalog cache has been disabled either through configuration or because the cache has become corrupted.

### **Operator response**

Enable the catalog cache if disabled by configuration. Restart the Tivoli Enterprise™ Monitoring Server.

## **KDSMA001: Tivoli Enterprise™ Monitoring Server (TEMS) data collection server started.**

### **Explanation**

Initialization in progress.

## **KDSMA002: Tivoli Enterprise™ Monitoring Server (TEMS) did not start. Status=*variable*. Reason=*variable***

### **Explanation**

The Tivoli Enterprise™ Monitoring Server did not start. Operation *variable* was in progress and completed with status *variable* and reason *variable*.

### **Operator response**

Verify installation and configuration procedures.

## **KDSMA003: Tivoli Enterprise™ Monitoring Server (TEMS) data collection server ended successfully.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDSMA004: Internal services failed during *variable* while attempting to end. Status= *variable*. Reason= *variable***

**Explanation**

Tivoli Enterprise™ Monitoring Server (TEMS) did not end successfully. Services have ended, but problems exist.

**Operator response**

Refer to the *IBM® Tivoli® Monitoring: Problem Determination Guide* for more information.

**KDSMA005: Stop of internal services ended abnormally. Reason *variable*.**

**Explanation**

An internal error occurred. *variable* is an internal code that aids in problem resolution.

**Operator response**

Refer to the *IBM® Tivoli® Monitoring: Problem Determination Guide* for more information.

**KDSMA006: Tivoli Enterprise™ Monitoring Server (TEMS) data collection server did not start.**

**Explanation**

The data collection server did not start.

**Operator response**

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server product log. Also, check the joblog of the failed job for messages.

**KDSMA007: Logon did not complete. Not enough memory. User *variable*.**

**Explanation**

You tried to log onto Tivoli Enterprise™ Monitoring Server (TEMS) but not enough memory is currently available to process the request.

**Operator response**

See your Tivoli Enterprise™ Monitoring Server administrator to determine memory requirements.

**KDSMA008: Duplicate logon attempted. User *variable*.**

**Explanation**

You tried to log onto Tivoli Enterprise™ Monitoring Server (TEMS) more than once.

**KDSMA009: User *variable* logged off server *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDSMA010: Communication did not succeed. User *variable variable* cancelled.**

**Explanation**

Tivoli Enterprise™ Monitoring Server (TEMS) has detected a loss of communication to the user. Automatic cleanup processing is invoked.

**KDSMA011: Logon successful to server *variable* user *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KDSMA012: Logon did not complete. User *variable*.**

**Explanation**

You tried to log onto the Tivoli Enterprise™ Monitoring Server (TEMS) data collection server, but a possible logon string error has occurred.

**Operator response**

Verify installation and configuration procedures.

**KDSMA013: APPLID *variable* is not valid or is unavailable.**

**Explanation**

An attempt to bind to the APPLID *variable* failed. This could be due to the APPLID being unavailable or because the APPLID is not correct.

**Operator response**

Verify installation and configuration procedures.

**KDSMA014: Node ID &1 length is too long.**

**Explanation**

The length of the node ID must be less than 32 characters.

**User response**

Verify installation and configuration procedures.

**Severity**

0

**System Programmer Response**

No

**KDSNC001: Checking location broker status.**

**Explanation**

The location brokers are being checked to determine if they are already active.

**Operator response**

Verify installation and configuration procedures.

**KDSNC002: Local location broker is not active.****Explanation**

The local location broker has not yet been started. The Tivoli Enterprise™ Monitoring Server will start it.

**KDSNC003: Global location broker is not active.****Explanation**

The global location broker has not yet been started. The Tivoli Enterprise™ Monitoring Server will start it.

**KDSNC004: Bind of local location broker complete at address *variable* on port *variable*.****Explanation**

The local location broker initialized successfully using the specified address and port.

**KDSNC005: Bind of global location broker complete at address *variable* on port *variable*.****Explanation**

The global location broker initialized successfully using the specified address and port.

**KDSNC006: Bind of local and global location broker complete at address *variable* on port *variable*.****Explanation**

The local and global location broker initialized successfully. Both are using the specified address and port.

**KDSNC007: Local Location Broker is active.****Explanation**

The local location broker initialized successfully.

**KDSNC008: Global Location Broker is active.****Explanation**

The global location broker initialized successfully.

**KDSNC009: Unable to create location brokers, status = *variable*.****Explanation**

The local or global location broker or both failed to start.

**Operator response**

Verify installation and configuration procedures.

**KDSPA001: Logon validation did not complete. User ID not valid. User *variable* *variable*.**

**Explanation**

You tried to log onto the Tivoli Enterprise™ Monitoring Server data collection server, but the user ID is not a valid user ID.

**Operator response**

Enter a valid user ID.

**KDSPA002: Logon validation did not complete. Password not valid. User *variable* and *variable*.**

**Explanation**

You tried to log onto the Tivoli Enterprise™ Monitoring Server (TEMS) data collection server, but the password supplied for the user ID is not valid.

**Operator response**

Enter a valid password.

**KDSPA003: Logon validation did not complete - system error. User *variable* *variable*.**

**Explanation**

You tried to log onto the Tivoli Enterprise™ Monitoring Server (TEMS) data collection server, but a possible system error occurred.

**Operator response**

Refer to the *IBM® Tivoli® Monitoring: Problem Determination Guide* for additional information about logon validation failures.

**KDSPA004: Logon validation failed. User *variable* *variable*.**

**Explanation**

You tried to log onto the Tivoli Enterprise™ Monitoring Server (TEMS) but the logon validation failed.

**Operator response**

Ensure the user ID and password used are correct.

**KDSPM001: Remote request directory service lookup failed for node *variable*.**

**Explanation**

The location of the node specified in a remote request cannot be determined. Possible configuration error.

**Operator response**

Verify installation and configuration procedures.

**KDSPM021: Storage limit exceeded attempting to process *variable1*  
*variable2*.**

**Explanation**

A SQL Where clause contains too many elements or large elements.

**Operator response**

Reduce the number and size of elements or use multiple queries, such as imbedded situations.

**KDSRU001: Remote request communication failure to destination *variable*.**

**Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) data collection server has lost or could not communicate with a remote partner. Possible configuration error.

**Operator response**

Try again later. If still not successful, verify installation and configuration procedures.

**KDSSA001: Seeding started for product *variable* using file *variable* with seed  
option *variable***

**Explanation**

The seeding process was started for the specified product.

**KDSSA002: Seeding ended for product *variable* using file *variable* with seed  
option *variable***

**Explanation**

The seeding process ended for the specified product.

**KDSSA003: Product *variable* not seeded, seed file not found.**

**Explanation**

The indicated product was not seeded, as the seed file could not be found.

**KDSSA004: Seeding for product *variable* for install type *variable* is  
configured as DISABLE. Seeding is not performed.**

**Explanation**

For the product specified and the install type (pristine or upgrade), either the product specific SDA seeding configuration or the system SDA seeding configuration indicates the setting as <DISABLE>.

**Operator response**

Refer to the *IBM Tivoli Monitoring Command Reference* for more information.

## **KFA messages**

Messages that begin with the KFA prefix are associated with the Tivoli Enterprise™ Monitoring Server on both z/OS® and distributed platforms.

## **KFAA060W: UNABLE TO READ *kdscnfg* FILE**

### **Explanation**

An attempt to read the *kdscnfg* file from the Tivoli Enterprise™ Monitoring Server configuration file directory (/tables directory) has failed.

### **System action**

No connection to Tivoli Enterprise™ Monitoring Server can be established for alert automation processing. Alert processing is disabled.

### **User response**

Ensure that the SMAF process is started from the proper directory and that the *kdscnfg* file is present. Restart Tivoli Enterprise™ Monitoring Server after corrections have been made.

## **KFAAL00E: INVALID SE LOCK STATE IN *module* COUNTER=*lockcounter***

### **Explanation**

An invalid state was detected in a shared or exclusive lock control block. An internal error has occurred that may cause integrity errors on shared resource access. The *module* value indicates the module where the problem was detected. The *lockcounter* value specifies the number of shared locks in progress. A *lockcounter* value of -1 means that a single user has an exclusive lock. A value of 0 means that no locks are in progress.

### **System action**

Processing continues.

### **User response**

Contact IBM® Software Support.

## **KFAOT001: Starting TEC Event Integration facility. Time = *<variable>***

### **Explanation**

TEC Event Integration facility initialization in progress.

## **KFAOT002: TEC Event Integration facility started successfully.**

### **Explanation**

TEC Event Integration facility has started successfully.

## **KFAOT003: TEC Event Integration facility startup failed. status = *<variable>*.**

### **Explanation**

TEC Event Integration facility has failed to initialize.

## **KFAOT004: TEC Event Integration facility has ended.**

### **Explanation**

TEC Event Integration facility has ended.

**KFAOT005: Load KFAOTTEV failed, status = *<variable>*. TEC Event Integration disabled.**

**Explanation**

Unable to load KFAOTTEV. KFAOMTEC dll may be missing or corrupt.

**KFAOT006: TEC Event Integration entered quiesced mode**

**Explanation**

TEC Event Integration is refreshing the EIF configuration or mapping files or both.

**KFAOT007: TEC Event Integration exited quiesced mode**

**Explanation**

TEC Event Integration finished refreshing the EIF configuration or mapping files or both.

**KFAOT008: TEC Event Integration not enabled. Refresh command ignored.**

**Explanation**

TEC Event Integration is not enabled. The **refresh** command is ignored.

**KFAOT009: Refresh of EIF config and/or mapping files is successful.**

**Explanation**

The refresh operation is successful.

**KFAOT010: Refresh of EIF config and/or mapping files failed. Status *<variable>*.**

**Explanation**

The refresh operation failed. See the Tivoli Enterprise™ Monitoring Server logs for details. The most common status codes follow:

**1**

Bad input.

**5**

No members found.

**7**

No memory.

**8**

Library I/O or system call error.

**KFAOT011: Event destination *<variable>* no longer valid for situation *<variable>*.**

**Explanation**

The specified event destination is no longer defined.

**KFAOT012: <variable> attribute file <variable> successfully refreshed.**

**Explanation**

TEC Event Forwarder has successfully processed the new or updated attribute file.

**KFAOT013: Load KFAOTRFH failed, status=<variable>. The TEC Event Integration product refreshing is disabled.**

**Explanation**

Unable to load KFAOTRFH. The KFAOMTEC library may be missing or corrupt.

**KFAS001: Product <variable> cannot be seeded.**

**Explanation**

The indicated product could not be seeded, because a required Tivoli Enterprise Monitoring Server (TEMS) service could not be loaded.

**System action**

None.

**User response**

Contact IBM Software Support.

**KFASD001: Detected that product <variable> version <variable> id <variable> id version <variable> support files manually installed.**

**Explanation**

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that the support files for the specified product were manually installed.

**System action**

None.

**User response**

None.

**KFASD002: Detected that product <variable> version <variable> id <variable> id version <variable> support files manually removed.**

**Explanation**

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that the version and catalog support files for the specified product were manually removed.

**System action**

None.

**User response**

If the specified version of this product is still in use, manually re-install the support files for the product and restart the Tivoli Enterprise Monitoring Server. Otherwise, no action is required.

**KFASD003: Detected that product version was manually changed from <variable> to <variable> for product <variable> id <variable> id version <variable>.**

**Explanation**

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that a different version of an existing product was manually installed.

**System action**

None.

**User response**

If the new product support version does not match your product version, install the correct support files and restart the Tivoli Enterprise Monitoring Server. Otherwise, no action is required.

**KFASD004: Detected that catalog version <variable>,<variable> was manually replaced with version <variable>,<variable> for product <variable> version <variable> id <variable> id version <variable>.**

**Explanation**

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that the catalog file for an installed product was manually replaced with a different catalog.

**System action**

None.

**User response**

If the new product catalog version is incorrect, install the correct support files for the product and restart the Tivoli Enterprise Monitoring Server. Otherwise, no action is required.

**KFASD005: Detected that the catalog is missing for product <variable> version <variable> id <variable> id version <variable>. Catalog version was <variable>,<variable>, state <variable>, status <variable>.**

**Explanation**

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that the catalog for an installed product was removed. The most common status codes (the value of the STATUS column in the TAPPLPROPS table) and their descriptions are:

**0**

Operation successful

**1001**

Request queued

**1002**

Out of memory

**1003**

Bad argument

**1004**

Not found

**1005**

System error

**1006**

Request for same product already in progress or queued

**1007**

KT1 error

**1008**

Self-Describing Agent (SDA) feature disabled at TEMS

**1009**

Hub not there

**1010**

TEMS shutdown in progress

**1011**

Invalid content in manifest file

**1012**

Wrong TEMS version

**1013**

Unsupported feature

**1014**

Unknown error

**1015**

Bad input argument

**1016**

Record updated by the manual install detection process

**1017**

Temp install error, agent expected to retry install request

**1018**

Error refreshing catalog files

**1019**

Error refreshing attribute files

**1020**

Error refreshing Omegamon2TEC files

**1021**

Time expired waiting for SDA install completion

**1022**

Seeding error

**1023**

SDA not initialized due to config error

**System action**

None.

### User response

If the specified product is still in use, manually reinstall the support files and restart the Tivoli Enterprise Monitoring Server. Otherwise, no action is required.

**KFASD006: Detected failure state <variable>, status <variable>, in a prior auto install of product <variable> version <variable> id <variable> id version <variable>. State changed to <variable>.**

### Explanation

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that a prior attempt to automatically install the indicated product failed. Use `tacmd listappinstallrecs` to display the STATE of the application install records. The most common status codes (the value of the STATUS column in the TAPPLPROPS table) and their descriptions are listed in the description of message "[KFASD005](#)" on page 2313.

### System action

None.

### User response

Follow the instructions in the IBM Tivoli Monitoring (ITM) documentation for recovering from automatic product installation failures.

**KFASD007: Detected failure STATE <variable>, STATUS <variable>, SEEDSTATE <variable>, in a prior auto install of PRODUCT <variable> VERSION <variable> ID <variable> IDVER <variable>.**

### Explanation

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that a prior attempt to automatically install the indicated product failed. The most common status codes (the value of the STATUS column in the TAPPLPROPS table) and their descriptions are listed in the description of message "[KFASD005](#)" on page 2313.

### System action

None.

### User response

Use `tacmd listappinstallrecs` to display the STATE of the application install records. Follow the instructions in the IBM Tivoli Monitoring (ITM) documentation for recovering from automatic product installation failures.

**KFASD008: Detected an incomplete automatic install of product <variable> version <variable> id <variable> id version <variable>: state <variable>, status <variable>. State promoted to <variable>.**

### Explanation

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that a prior attempt to automatically install the indicated product did not finish. The most common status codes (the value of the STATUS column in the TAPPLPROPS table) and their descriptions are listed in the description of message "[KFASD005](#)" on page 2313.

### System action

None.

### User response

Use `tacmd listappinstallrecs` to display the STATE of the application install records. Follow the instructions in the IBM Tivoli Monitoring (ITM) documentation for recovering from automatic product installation failures.

## **KFASD009: Self-Describing Agent feature enabled on local TEMS.**

### Explanation

Initialization of the Self-Describing Agent (SDA) feature has successfully completed on the local Tivoli Enterprise Monitoring Server (TEMS) and is available for use.

### System action

None.

### User response

If you do not want SDA to be enabled on the local TEMS, you must set the `KMS_SDA=N` environment variable. Otherwise, no action is required.

## **KFASD010: Self-Describing Agent feature disabled on local TEMS.**

### Explanation

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because the `KMS_SDA=N` environment variable has been specified.

### System action

None.

### User response

If you want SDA to be enabled on the local TEMS, you must set the `KMS_SDA=Y` environment variable. Otherwise, no action is required.

## **KFASD011: Self-Describing Agent feature disabled on local TEMS because of error during initialization.**

### Explanation

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because an error occurred while the components of the SDA feature were being constructed and initialized.

### System action

None.

### User response

View the TEMS product log to find specific information pertaining to the SDA initialization error.

## **KFASD012: Self-Describing Agent feature disabled on local TEMS because TEMS\_MANIFEST\_PATH length <variable> exceeds maximum length <variable>**

### Explanation

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because the length of the directory value specified in the `TEMS_MANIFEST_PATH` environment variable exceeds the 512 character limit.

**System action**

None.

**User response**

If you want to use the SDA feature, you must ensure that a valid TEMS\_MANIFEST\_PATH environment variable has been specified in the TEMS configuration file.

**KFASD013: Self-Describing Agent feature disabled on local TEMS because TEMS\_MANIFEST\_PATH not specified.****Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a required environment variable, TEMS\_MANIFEST\_PATH, has not been specified to indicate the directory where SDA files should be installed.

**System action**

None.

**User response**

If you want to use the SDA feature, you must ensure that a valid TEMS\_MANIFEST\_PATH environment variable has been specified in the TEMS configuration file.

**KFASD014: Self-Describing Agent feature disabled on local TEMS because Distributed Request Manager failed to initialize.****Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a vital component of the SDA feature, the Distributed Request Manager, failed to initialize.

**System action**

None.

**User response**

View the TEMS product log to find specific information pertaining to the Distributed Request Manager initialization error.

**KFASD015: Self-Describing Agent feature disabled on local TEMS because Notification Manager failed to initialize.****Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a vital component of the SDA feature, the Notification Manager, failed to initialize.

**System action**

None.

**User response**

View the TEMS product log to find specific information pertaining to the Notification Manager initialization error.

## **KFASD016: Self-Describing Agent feature disabled on local TEMS because SDM Request Manager thread failed to initialize.**

### **Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a vital component of the SDA feature, the SDM Request Manager thread, failed to initialize.

### **System action**

None.

### **User response**

View the TEMS product log to find specific information pertaining to the SDM Request Manager thread initialization error.

## **KFASD017: Self-Describing Agent feature disabled on local TEMS because of failure to allocate <&1> bytes for SDM Communication Area.**

### **Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a vital component of the SDA feature, the SDM Communication Area, could not be allocated.

### **System action**

None.

### **User response**

View the TEMS product log to determine if there is a severe memory shortage problem in this TEMS or if there are other errors relevant to the inability to allocate the SDM Communication Area.

## **KFASD018: Self-Describing Agent feature has config <variable> at hub TEMS. SDA also being disabled at this remote TEMS.**

### **Explanation**

While (re)connecting to the hub Tivoli Enterprise Monitoring Server (TEMS), this remote TEMS detected that the Self-Describing Agent (SDA) feature is not enabled at the hub because the environment variable, KMS\_SDA=N, has been specified at the hub. Therefore, the SDA feature must also be disabled at this remote TEMS to prevent SDA requests from being sent to the hub.

### **System action**

None.

### **User response**

If you require SDA support at this remote TEMS, you must ensure that KMS\_SDA=Y is also specified at the associated hub TEMS.

## **KFASD019: Self-Describing Agent feature has config <variable> status <variable> at hub TEMS. SDA also being disabled at this remote TEMS.**

### **Explanation**

While (re)connecting to the hub Tivoli Enterprise Monitoring Server (TEMS), this remote TEMS detected that the Self-Describing Agent (SDA) feature is not enabled at the hub because of an error encountered during the hub's SDA initialization. Therefore, the SDA feature must also be disabled at this remote TEMS to prevent SDA requests from being sent to the hub.

### System action

None.

### User response

The error status code value from the hub can be one of the following:

1. SDA initialization failed
2. ITM\_HOME/CANDLEHOME directory not specified
3. TEMS\_MANIFEST\_PATH env var not specified
4. TEMS\_MANIFEST\_PATH directory length exceeds maximum
5. TEMS\_MANIFEST\_PATH directory doesn't exist
6. KMS\_SDA env var contains unexpected value
7. SDA Distributed Request Manager failed to initialize
8. SDA Notification Manager failed to initialize
9. Unable to create SDA Request Manager thread
10. SDA disabled at HUB, disabling at RTEMS
11. SDA error status at HUB, disabling at RTEMS
12. SDA status unknown at HUB, disabling at RTEMS
13. Unable to contact HUB for SDA status, disabling at RTEMS
14. SDA Broadcast Request Manager failed to initialize
15. Unable to create SDA Broadcast Manager thread
16. KMS\_SDA=N configured on local TEMS
17. CMS\_FTO=YES configured on local TEMS

You can also view errors in the hub TEMS product log to obtain additional information as to why SDA is not available there. After the problem at the hub has been corrected, the SDA feature will be enabled at this remote TEMS following the next hub connection.

### **KFASD020: Self-Describing Agent feature has config <variable> at hub TEMS. SDA also being disabled at this remote TEMS.**

### Explanation

While (re)connecting to the hub Tivoli Enterprise Monitoring Server (TEMS), this remote TEMS was not able to obtain the status of the Self-Describing Agent (SDA) feature at the hub. Because the hub SDA feature may be inactive or non-responsive, the feature must also be disabled at this remote TEMS to prevent SDA requests from being sent to the hub.

### System action

None.

### User response

If you require SDA support at this local RTEMS, you should view the hub TEMS product log to find information pertaining to the status of SDA, and if there were errors encountered during SDA initialization or operation at the hub. After the problem at the hub has been corrected, the SDA feature will be enabled at this remote TEMS following the next hub connection.

**KFASD021: Self-Describing Agent feature has been enabled at hub TEMS. SDA also being enabled at this remote TEMS.**

**Explanation**

While (re)connecting to the hub Tivoli Enterprise Monitoring Server (TEMS), this remote TEMS detected that the Self-Describing Agent (SDA) feature has been enabled at the hub. Therefore, the feature can now be enabled at this remote TEMS.

**System action**

None.

**User response**

If you do not want SDA to be enabled at this remote TEMS, you must set the KMS\_SDA=N environment variable. Otherwise, no action is required.

**KFASD022: Unexpected value <variable> found in KMS\_SDA environment variable. Self-Describing Agent feature disabled on local TEMS.**

**Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because the KMS\_SDA environment variable has been assigned an undefined value. The only two supported values are Y for enabling the SDA feature, and N for disabling the feature.

**System action**

None.

**User response**

Correct the KMS\_SDA environment variable to assign it either a Y or N value.

**KFASD023: Unable to contact hub TEMS, status <variable>, to determine if Self-Describing Agent feature is enabled.**

**Explanation**

This remote Tivoli Enterprise Monitoring Server (TEMS) was not able to communicate with its hub to obtain the status of the Self-Describing Agent (SDA) feature at the hub.

**System action**

None.

**User response**

View the TEMS product logs for both the hub and remote TEMS to determine the cause of the communication failure between the remote and hub TEMS.

**KFASD024: Self-Describing Agent feature disabled on local TEMS because <variable> not specified.**

**Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because the required ITM home directory was not specified.

**System action**

None.

**User response**

Ensure that the ITM home directory has been properly specified in the Tivoli Enterprise Monitoring Server configuration file.

**KFASD025: Self-Describing Agent feature disabled on local TEMS because TEMS\_MANIFEST\_PATH <variable> not found.****Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a required environment variable, TEMS\_MANIFEST\_PATH, has been assigned a directory that does not exist in the local file system.

**System action**

None.

**User response**

If you want to use the SDA feature, you must ensure that a valid directory has been specified for the TEMS\_MANIFEST\_PATH environment variable in the Tivoli Enterprise Monitoring Server configuration file.

**KFASD026: The remote TEMS has become disconnected from the HUB while performing a SDA synchronization.****Explanation**

This remote Tivoli Enterprise Monitoring Server (TEMS) encountered a communication failure with the hub during a Self-Describing Agent (SDA) request. SDA requests cannot be honored until the connection is re-established.

**System action**

None.

**User response**

View the TEMS product logs for both the hub and remote TEMS to determine the cause of the communication failure between the remote and hub TEMS. Once the failure has been corrected, SDA request support can be resumed.

**KFASD027: Unexpected failure <variable> during RTEMS SDA synchronization with the HUB.****Explanation**

This remote Tivoli Enterprise Monitoring Server (TEMS) encountered an unexpected failure with the hub during the Self-Describing Agent (SDA) synchronization phase. The SDA feature is disabled at this remote TEMS.

**System action**

None.

**User response**

View the TEMS product logs for both the hub and remote TEMS to determine the location of the issue, and recycle the appropriate TEMS that is responsible for the issue. Once the remote TEMS reconnects, SDA request support can be resumed.

**KFASD028: Self-Describing Agent feature disabled on local TEMS because Broadcast Manager failed to initialize.**

**Explanation**

The Self-Describing Agent (SDA) feature is disabled on the local Tivoli Enterprise Monitoring Server (TEMS) because a vital component of the SDA feature, the Broadcast Manager, failed to initialize.

**System action**

None.

**User response**

View the Tivoli Enterprise Monitoring Server product log to find specific information pertaining to the Broadcast Manager initialization error.

**KFASD030: Detected seeding error, SEEDSTATE <variable>, STATE <variable>, STATUS <variable>, in a prior auto install of PRODUCT <variable> VERSION <variable> ID <variable> IDVER <variable>.**

**Explanation**

During startup, the Tivoli Enterprise Monitoring Server (TEMS) determined that a prior attempt to automatically seed the indicated product encountered an error. Prior installation continued. Use the tacmd listappinstallrecs to display the STATE and SEEDSTATE of the application install records.

**System action**

None.

**User response**

View the previous TEMS product log to find specific information pertaining to the product seeding error.

**KFASD031: *variable* Self-Describing Agent install configurations record after RTEMS reconnected to HUB failed. status *variable***

**Explanation**

Processing of install configuration records after RTEMS reconnects to the HUB has failed. See the RTEMS RAS1 log for details.

**System action**

None.

**User response**

None.

**KFASD100: Self-Describing Install Started for PRODUCT <variable>, VER <variable>, ID <variable>, IDVER <variable>.**

**Explanation**

Self-Describing Agent installation has begun for the specified product.

**System action**

None.

**User response**

None.

**KFASD101: Self-Describing Install Completed Successfully for PRODUCT <variable>, VER <variable>, ID <variable>, IDVER <variable>.**

**Explanation**

Self-Describing Agent installation has successfully completed for the specified product.

**System action**

None.

**User response**

None.

**KFASD102: Self-Describing Install Failed with STATUS <&1> for PRODUCT <variable>, VER <variable>, ID <variable>, IDVER <variable>.**

**Explanation**

Self-Describing Agent installation has failed for the specified product.

**System action**

None.

**User response**

View the TEMS product log to find specific information pertaining to the product installation error.

**KFASD103: Self-Describing Agent Seeding Failed for PRODUCT <variable>, VER <variable>, ID <variable>, IDVER <variable>. Install continuing.**

**Explanation**

Self-Describing Agent seeding has failed for the specified product. The installation process has ignored the error, and is continuing with the product install.

**System action**

None.

**User response**

View the TEMS product log to find specific information pertaining to the product seeding error.

**KFASD106: FTO requested Self Describing Install at Mirror for PRODUCT <variable>, VER <variable>, ID <variable>, IDVER <variable>.**

**Explanation**

Self-Describing Agent installation has been requested at the Mirror for the specified product.

**System action**

None.

**User response**

None.

**KFASD107: Pending Self-Describing Install request is cancelled for PRODUCT <variable>, VER <variable>, ID <variable>, IDVER <variable> due to FTO hub switch.**

**Explanation**

Pending Self-Describing Agent requests are cancelled when a hub switch takes place to avoid connection error.

**System action**

None.

**User response**

None.

**KFASD108: Self-Describing Agent User Configuration Record *variable* Error detected by UserID <variable> at <variable> for PRODUCT <variable> ID <variable> OPTION <variable> reason <variable>.**

**Explanation**

The User Configuration Record change was in error and not accepted. Note that this message is generated only for the hub monitoring server, not the remote monitoring server. For a hub monitoring server v6.3 or later, the tacmd resumeSda command and tacmd suspendSda command are available at the hub, but not at the downlevel remote monitoring server (for example, v6.2.3 Fix Pack 1).

**System action**

None.

**User response**

None.

**KFASD109: Self-Describing Agent User Configuration Record *variable* by UserID <variable> at <variable> for GRPID <variable> PRODUCT <variable> ID <variable> CONFIG <variable>.**

**Explanation**

The User Configuration Record was processed successfully. Note that this message is generated only for the hub monitoring server, not the remote monitoring server. For a hub monitoring server v6.3 or later, the tacmd resumeSda command and tacmd suspendSda command are available at the hub, but not at the downlevel remote monitoring server (for example, v6.2.3 Fix Pack 1).

**System action**

None.

**User response**

None.

**KFASD110: Self-Describing Agent feature *variable* on local TEMS.**

**Explanation**

The Self-Describing Agent (SDA) feature is suspended or resumed by a Suspend User Configuration Record change. Note that this message is generated only for the hub monitoring server, not the remote monitoring server. For a hub monitoring server v6.3 or later, the tacmd resumeSda command and tacmd suspendSda

command are available at the hub, but not at the downlevel remote monitoring server (for example, v6.2.3 Fix Pack 1).

**System action**

None.

**User response**

None.

**KFASD111: Self-Describing Agent Initialization *variable* Record Error detected for PRODUCT <*variable*> ID <*variable*> OPTION <*variable*> reason <*variable*>.**

**Explanation**

The Initialization Record processing was in error and not completed.

**System action**

None.

**User response**

Review the TEMS product logs for the TEMS to determine the location of the issue. Correct the appropriate Record that is causing the issue. Restart the TEMS to initialize the SDA feature.

**KFASD112: Self-Describing Agent Suspend/Install User Configuration Features are *variable* at the hub TEMS.**

**Explanation**

This remote Tivoli Enterprise Monitoring Server (TEMS) has detected that the Self-Describing Agent (SDA) Suspend/Install User Configuration Features are <Not Supported> or <Now Available> at the hub (TEMS). Note that this message is generated only for the hub monitoring server, not the remote monitoring server. For a hub monitoring server v6.3 or later, the tacmd resumeSda command and tacmd suspendSda command are available at the hub, but not at the downlevel remote monitoring server (for example, v6.2.3 Fix Pack 1).

**System action**

None.

**User response**

The remote (TEMS) SDA feature will not process Suspend/Install User Configuration controls from the hub (TEMS) when it does not have support for the feature or will process Suspend/Install User Configuration Controls that the hub (TEMS) has recently upgraded support for.

**KFASD190: Self-Describing Agent feature terminated on the local TEMS.**

**Explanation**

The Self-Describing Agent (SDA) feature has been stopped.

**System action**

None.

**User response**

View the local TEMS product logs if the feature has not been stopped by normal TEMS shutdown to determine the location of the issue for SDA termination. Correct the appropriate issue. Start the local TEMS to restart the SDA feature.

## **KFAST001: Agent node name error- *variable variable variable***

### **Explanation**

An agent has attempted to insert itself with an invalid node name. The values given are the NODE name, THRUNODE name and HOSTADDR. NODE name is the incorrect name and HOSTADDR is the address of the computer on which the agent resides.

## **KFAST002: Select request for the EIBLOG table cannot be performed at a remote TEMS.**

### **Explanation**

Select request for the TEIBLOGT table was issued to this Tivoli Enterprise™ Monitoring Server. The TEIBLOGT is a hub Tivoli® Enterprise Monitoring Server-only table and therefore the request cannot be processed.

## **KFAST003: Take Action command *variable* completed with status of *variable*.**

### **Explanation**

The Take Action command specified was executed with the identified result. This message reflects that status of the Take Action command. The first variable represents the command that was executed. The second variable is the status code from the execution of the action. This status code is operating system- or application-specific and indicates whether or not this Take Action command was executed only. For determination regarding success or failure for the action, refer to documentation associated with the action.

### **Operator response**

If the result is not as expected, verify that the command configured successfully execute by issuing the command manually. This will ensure any necessary platform resources are available for the command to complete.

The following list describes the return codes for the KFAST003 message on z/OS® systems:

**0**

Operation completed successfully

**1**

One or more attributes invalid

**2**

USERID attribute not supplied

**3**

COMMAND not supplied

**4**

Command not successfully executed

**5**

An unhandled exception occurred during command execution

**6**

Process not authorized

**7**

Command is too long

**8**

Heap storage unavailable

9

IBM Z® NetView PPI rejected request

10

User ID is too long

11

Unable to assume user profile

12

Unable to restore user profile

13

Unable to restore user profile

14

An exception occurred during command execution

15

Unable to release user profile

16

Current profile unavailable

17

IBM Z® NetView PPI interface CNMCNETV not loaded

## **KFAST004: Unsupported Node or Nodelist request: *variable***

### **Explanation**

A request to add a node or nodelist to the Tivoli Enterprise™ Monitoring Server contained unsupported characters in either the nodename, thrunode, nodelist, affinities or nodetype. Typically this request is made by an IBM® Tivoli® Monitoring agent or probe attempting to connect to the Tivoli Enterprise™ Monitoring Server. One or some of the required values provided contained unsupported characters.

### **Operator response**

Refer to the Tivoli Enterprise™ Monitoring Server log where the node, thrunode, nodelist, affinities, and nodetype values have been dumped. These rules apply:

- The rule set for supported values for node, thrunode, and nodelist: A-Z, a-z, 0-9, \*-\_ : and space.
- Affinities must be 43 characters, and the static affinity rule set is A-Z, a-z, 0-9, \* #.
- A dynamic affinity is indicated when the first character is a \$ or %. For dynamic affinities, the initial 23 characters are validated as follows:
  - a. The valid dynamic affinity characters are A-Z, a-z, 0-9 and \_.
  - b. A single period is required to separate the vendor and app ID.
  - c. Spaces are only supported as trailing characters in the dynamic portion before the static portion.
  - d. The remaining 19 characters are validated using static affinity rules.
- The supported values for nodetype are: space, M and V.
- Additionally, nodelist, node, and thrunode values cannot start with a space, and node values cannot start with an \*.

Examine the memory dump in the trace log to determine the illegal value that is being attempted. For further action, contact IBM®.

## **KFAA001W: KFAASITR LOOKUP TABLE NOT LOADED**

### **Explanation**

The alert automation environment could not be initialized, and the Situation Trap table could not be loaded into storage for alert processing.

### **System action**

Alert automation is disabled. No alerts are issued when events are detected.

### **User response**

Review the messages issued before this message to determine the cause of environment initialization failure. This message is normal if no entries are specified in the KFAASITR runtime parameter file or if no KFAASITR parameter file is found.

## **KFAA002E: THREAD CREATION ERROR ERROR= *errno***

### **Explanation**

An attempt to start a thread of execution has failed. Threads are used to distribute action requests to alert emitters. The *errno* value indicates the status code issued by the POSIX `pthread_create` function.

### **System action**

No further action is taken to transmit the action request to the alert emitter.

### **User response**

Determine whether POSIX threading restrictions prevent the thread creation. If restrictions cannot be determined, contact IBM® Software Support.

## **KFAA003E: GET LOCK ERROR=*status***

### **Explanation**

An attempt to acquire a lock (`pthread_mutex_lock`) has failed. POSIX mutex locks are used to serialize access and update to internal control blocks shared by multiple threads of execution. The *status* value indicates the error code issued by the POSIX `pthread_mutex_lock` function.

### **System action**

Alert processing is terminated. No further action requests are sent to the alert emitter.

### **User response**

Contact IBM® Software Support.

## **KFAA004E: COMMAND BUFFER OVERFLOW SITUATION=*sitname* DESTNODE=*destnode* ARG=*arg***

### **Explanation**

An attempt to format the command string to be executed by an alert emitter has overflowed the internal buffer. The *sitname* and *arg* values indicate, respectively, the situation and argument being processed. The *destnode* value specifies the alert emitter.

### **System action**

Alert processing for the event is terminated.

### User response

Reduce the amount of data substituted into the command string by eliminating unnecessary attributes from the ARG n values specified for this event in the Situation Trap table (KFAASITR). If this error cannot be corrected, contact IBM® Software Support.

## KFAA005S: UNABLE TO ALLOCATE KFAASITR TABLE

### Explanation

An attempt to allocate a control block for the alert automation environment has failed. This error can occur when virtual storage is constrained.

### System action

The automation environment cannot be initialized, and alert processing is disabled.

### User response

Determine why the storage constraint occurred. If possible, increase storage limits for all the environments to be initialized, and then restart the Tivoli Enterprise™ Monitoring Server.

## KFAA006S: UNABLE TO INITIALIZE *lockname* ERRNO=*status*

### Explanation

An attempt to initialize a lock (pthread\_mutex\_init) has failed. POSIX locks are used to serialize access and update to control blocks shared by multiple threads of execution. The *lockname* value specifies the lock whose initialization failed. The *status* value indicates the POSIX error code.

### System action

No further attempt is made to initialize the lock, and alert automation initialization terminates. Alerts are not transmitted to alert emitters.

### User response

Contact IBM® Software Support.

## KFAA008W: KFAASITR LOOKUP TABLE IS EMPTY

### Explanation

No destination node entries for alert emitters were specified in the Situation Trap table. This is a warning message.

### System action

Alert automation is disabled until the table is refreshed.

### User response

If alert automation is desired, review the contents of the Situation Trap table file, KFAASITR. Correct any syntax errors reported by messages issued previous to this message. After you correct the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

## KFAA009W: KFAASITR COULD NOT BE OPENED

### Explanation

The Situation Trap table (KFAASITR file) could not be found in the runtime parameter persistent data store (z/OS® Tivoli Enterprise™ Monitoring Server) or the /tables directory (UNIX® Tivoli Enterprise™ Monitoring Server). This is a warning message.

### System action

Alert automation is disabled until the table is refreshed.

### User response

If alert automation is desired, ensure that the Situation Trap table file KFAASITR exists and contains at least one destination node entry. After the KFAASITR file has been created, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

## KFAA010E: DESTNODE NOT SPECIFIED IN LINE *line* NEAR token

### Explanation

The DESTNODE tag was not specified in an entry for the Situation Trap table (KFAASITR file). The DESTNODE tag must be specified for each entry in the table. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected. The token value indicates text near the entry where the destination node was not specified.

### System action

The current entry is ignored, and processing continues with the next entry in the table.

### User response

Correct the invalid Situation Trap table entry by ensuring that a DESTNODE tag is specified. Also ensure that each entry ends with a semicolon (;).

## KFAA011E: INVALID KFAASITR PARM=*parm*

### Explanation

An unexpected KFAASITR command parameter was specified. A MODIFY command issued to the z/OS® Tivoli Enterprise™ Monitoring Server address space has the following syntax:

```
MODIFY cmsjobname,CTDS KFAASITR parm
```

Where *cmsjobname* is the jobname of the Tivoli® Enterprise Monitoring Server address space and *parm* is one of the following:

- REFRESH: Reread the contents of the KFAASITR file to reinitialize the Situation Trap table.
- DISPLAY: Display the current contents of the Situation Trap table in memory.
- TESTSIT: Simulate the detection of a situation (named TestSituation) to verify proper operation of the alert automation environment and the alert emitters.

### System action

The KFAASITR console command is ignored.

### User response

Change the KFAASITR command parameter to one of those listed above.

## KFAA012W: UNABLE TO ESTABLISH KFAASITR COMMAND STATUS=*status* REASON=*reason*

### Explanation

An attempt to establish the KFAASITR console command in an z/OS® Tivoli Enterprise™ Monitoring Server environment has failed. The *status* and *reason* values indicate the status code and reason issued by the internal service function, OPER\_DefineCommand.

**System action**

The KFAASITR command will not be accepted for the life of the z/OS® Tivoli Enterprise™ Monitoring Server address space.

**User response**

Contact IBM® Software Support.

**KFAA013E: MISSING SEMICOLON IN LINE *line* NEAR *token*****Explanation**

The end of the KFAASITR file containing Situation Trap table entries was found before the last entry in the table ended with a semicolon. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected. The *token* value indicates text near the entry where the destination node was not specified. This is a warning message.

**System action**

The last entry is processed and accepted if no syntax errors are detected.

**User response**

Review the KFAASITR file and ensure that all entries in the file end with a semicolon (;).

**KFAA014W: MULTIPLE VALUES DETECTED FOR *tag* IN LINE *line* NEW VALUE=*new* OLD=*old* CHECK SEMICOLONS****Explanation**

A duplicate tag was found for an entry in the Situation Trap table KFAASITR.

**System action**

The last value for the tag is accepted for the entry.

**User response**

Review the contents of the KFAASITR file and ensure that a single value is specified for each tag. Also check to ensure that all entries in the file end with a semicolon (;).

**KFAA015E: UNABLE TO LOAD *mod entry* STATUS=*status* REASON=*reason*****Explanation**

An attempt to load a module into storage or to locate the address of a module in storage has failed. The *mod entry* value specifies the name of the module that could not be loaded. The *status* value is the STC1 status code associated with the error. The *reason* value is the RSN1 reason code associated with the error.

**System action**

The call to the module is aborted.

**User response**

Ensure that the libraries have been properly installed and configured. Contact IBM® Software Support.

**KFAA020E: INVALID LENGTH=*length* FOR *tag*="value" IN LINE *reason*****Explanation**

The value specified for a tag in the Situation Trap table KFAASITR has exceeded the maximum length for the tag. The maximum length varies for each tag. The *length* value specifies the maximum length acceptable for

the tag. The *tag* and its value are specified in tag and value. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected.

### **System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted.

### **User response**

Correct the invalid length. After you update the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

## **KFAA021E: INVALID VALUE FOR *tag=value* IN LINE *line***

### **Explanation**

The value specified for a tag in the Situation Trap table KFAASITR is not acceptable. The *tag* and the value specified for it are shown in tag and value. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected.

### **System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted.

### **User response**

Correct the invalid value. After the KFAASITR file has been updated, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

## **KFAA022E: INVALID SYNTAX: *badtag* IN LINE *line***

### **Explanation**

A tag specified in the Situation Trap table KFAASITR is not acceptable. The *badtag* value specifies the unexpected entry. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected.

### **System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted.

### **User response**

Correct the invalid tag. Ensure that the tag is spelled properly and specified in upper case. After you update the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

## **KFAA023E: UNABLE TO ALLOCATE *tag=value***

### **Explanation**

The storage required to store the value associated with a tag in the Situation Trap table KFAASITR could not be allocated. The *tag* and its value are specified in tag and value.

### **System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted.

**User response**

Correct the invalid value. Ensure that the tag is spelled properly and specified in upper case. After you update the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

**KFAA024E: ENDING QUOTE FOR TAG VALUE NOT FOUND IN LINE *line*****Explanation**

The value specified for an entry in the Situation Trap table KFAASITR was not properly enclosed in quotes.

**System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted. The line value specifies the line number in the KFAASITR runtime parameter file in which the error was detected.

**User response**

Make sure that end quotes are specified in quoted values. Strings enclosed in quotes are processed as specified, and no attribute substitution is performed for these values (if tags are ARG1-ARG9). After you update the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

**KFAA025E: WILDCARD NOT ALLOWED IN *tag=value* IN LINE *line*****Explanation**

An asterisk was specified in the value associated with a tag in the Situation Trap table KFAASITR, but the value for this tag cannot be a wildcard. The tag and its specified value are shown in *tag* and *value*. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected.

**System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted.

**User response**

Correct the invalid value. After you update the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

**KFAA026E: TOO MANY WILDCARDS IN *tag=value* IN LINE *line*****Explanation**

Two or more asterisks were specified in the value associated with a tag in the Situation Trap table KFAASITR, but only a single wildcard character is acceptable. The tag and its specified value are shown in *tag* and *value*. The *line* value specifies the line number in the KFAASITR runtime parameter file in which the error was detected.

**System action**

The tag is ignored, and syntax checking continues with the next tag for the current entry. The current entry is not accepted.

**User response**

Correct the invalid value. After you update the KFAASITR file, issue a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only) or restart the SMAF process to activate the new situation traps.

## **KFAA030E: *oper* SQL ERROR ON *hdsee sql1api* STATUS=*status***

### **Explanation**

An attempt to transmit an action request to an alert emitter has failed during SQL processing. The *oper* value specifies the SQL operation which failed. The *sql1api* value specifies the SQL1 service function which failed. The *status* value specifies the SQL1 status code returned by the function.

### **System action**

The alert automation action is terminated, and no further attempt is made to transmit the request to the alert emitter.

### **User response**

Contact IBM® Software Support.

## **KFAA040I: ACTION STARTED FOR SITNAME=*sitname* DESTNODE=*destnode* STATE=*state* REQUESTID=*requestid***

### **Explanation**

An alert automation action request has been successfully transmitted to an alert emitter. This is an informational message.

The *sitname* value specifies the situation associated with the alert. The *destnode* value specifies the alert emitter. The *state* value specifies the current state of the associated event:

- 1 The situation has become true.
- 2 The situation has become false.

The *requestid* value is a unique integer assigned to the action request.

### **System action**

The alert emitter proceeds to issue alerts or execute automation scripts for the alert.

### **User response**

None.

## **KFAA041I: TEMS=*commandstring***

### **Explanation**

This informational message follows message KFAA040I. The *commandstring* value specifies the formatted command string transmitted to the alert emitter.

### **System action**

The alert emitter proceeds to issue alerts or execute automation scripts for the alert.

### **User response**

None.

## **KFAA042E: NO RESPONSE FROM DESTNODE=*destnode* FOR SITNAME=*sitname* ORIGINNODE=*originnode* STATE=*state* ERRNO=*status* REQUESTID=*reqid***

### **Explanation**

This message follows messages KFAA040I and KFAA041I. No response was received within 60 seconds from the alert emitter responsible for alert automation requests.

The *destnode* value specifies the alert emitter. The *sitname* value specifies the situation associated with the alert. The *originnode* value specifies the node from which the situation event was collected. The *state* value specifies the current state of the associated event:

- 1 The situation has become true.
- 2 The situation has become false.

The *status* value is the error number returned by the `pthread_cond_timedwait` service function. The *reqid* value is the unique integer request ID assigned to the action request.

### System action

No further action is taken to determine the final disposition of the alert action request.

### User response

End-user automation scripts must be written to complete execution as soon as possible. If automation scripts cannot complete within 60 seconds, a new thread of execution should be started by the automation script so that the successful response of automation can be recorded in the Tivoli Enterprise™ Monitoring Server message log. If this error persists, review the execution log provided by the alert emitter to determine whether automation failures have occurred.

## **KFAA050I: ACTION COMPLETED FOR SITNAME=*sitname* DESTNODE=*destnode* STATE=*state* RC=*rc* REQUESTID=*requestid***

### Explanation

This informational message indicates the success or failure of an action request executed by an alert emitter, and marks the completion of the request.

The *sitname* value specifies the situation associated with the alert. The *destnode* value specifies the alert emitter. The *state* value specifies the current state of the associated event:

- 1 The situation has become true.
- 2 The situation has become false.

The *rc* value specifies the return code issued by the automation script or by the alert sub-agent:

- **Zero:** Successful completion. Other Automation or alert processing failure. You can find further information about the failure in the message log of the alert emitter.
- **2:** The situation has become false.

The *requestid* value is a unique integer assigned to the action request.

### System action

No further processing is performed for the event.

### User response

None.

## **KFAA051W: DESTNODE=*destnode* OFFLINE FOR SITNAME=*sitname* ORIGINNODE=*originnode* STATE=*state* REQUESTID=*requestid***

### Explanation

An attempt to distribute an action request to an alert emitter has failed because the alert emitter is off-line and cannot be reached.

The *destnode* value specifies the alert emitter. The *sitname* value specifies the situation associated with the alert. The *originnode* value specifies the node from which the situation event was collected. The *state* value specifies the current state of the associated event:

- 1 The situation has become true.
- 2 The situation has become false.

The *requestid* value is a unique integer assigned to the action request.

### System action

No further action is taken to transmit the action request to the alert emitter.

### User response

If this message persists, ensure that the alert emitter is started and registered with the Tivoli Enterprise™ Monitoring Server. If the alert emitter is properly started, an entry for the emitter will appear in the Nodes folder on the Candle® Management Workstations desktop.

If the emitter continues to remain off-line and alerts no longer need to be distributed to the emitter, update the Situation Trap table KFAASITR to remove the entry for the off-line alert emitter. After you update the KFAASITR file, issue a KFAASITR REFRESH console command (Tivoli Enterprise™ Monitoring Server on z/OS® only) or restart the SMAF process to activate the new situation traps.

## **KFAA070I: USING TEMS NODE=*nodename***

### Explanation

The Tivoli Enterprise™ Monitoring Server node specified in the *nodename* value will be used to issue action requests to alert emitters. This is an informational message.

### System action

Alert automation environment initialization continues.

### User response

None.

## **KFAA090I: KFAASITR REFRESHED. STATUS=*status***

### Explanation

This message is issued to indicate the completion of a KFAASITR REFRESH command (z/OS® Tivoli Enterprise™ Monitoring Server only) to refresh the Situation Trap table. The *status* value indicates the status code issued by refresh processing:

### System action

If a zero value for the status is displayed, a new Situation Trap table is established, and subsequent events are processed from the updated entries in the table.

### User response

If a non-zero value for the status is displayed, determine the cause of the failure by reviewing messages issued before this message.

## **KFAA091I: TESTSIT INVOKED. STATUS=*status***

### Explanation

This message is issued to indicate the completion of a KFAASITR TESTSIT command (z/OS® Tivoli Enterprise™ Monitoring Server only) to simulate the occurrence of a real event and to test the current Situation Trap table entries. The command triggers a dummy situation named **TestSituation**. The *status* value indicates the status code issued by test processing:

### System action

If a zero value for the status is displayed, the Situation Trap table was searched and action requests were issued (if the simulated event matched any entries in the table).

**User response**

If a non-zero value for the status is displayed, determine the cause of the failure by reviewing messages issued before this message.

**KFAA092I: ACTIONS HAVE BEEN DISABLED****Explanation**

An attempt to initialize the alert automation environment or to read the KFAASITR file to initialize the Situation Trap table has failed.

**System action**

Alert automation is disabled.

**User response**

Review messages issued before this message, and take appropriate action based on those messages.

**KFAA093I: ACTION ENVIRONMENT INITIALIZE****Explanation**

This informational message indicates that the alert automation environment has been successfully initialized.

**System action**

Situation events matching those defined in the Situation Trap table will cause action requests to be distributed to alert emitters.

**User response**

None.

**KFAA094I: KFAASITR LOOKUP TABLE:****Explanation**

This informational message is issued in response to a KFAASITR DISPLAY console command (z/OS® Tivoli Enterprise™ Monitoring Server only).

**System action**

The current contents of the Situation Trap table follow this message.

**User response**

None.

**KFAA095I: IF SITNAME=*sitname* AND ORIGINNODE=*originnode* AND STATE=*state* THEN****Explanation**

This informational message displays the situation event data required to match the current entry in the Situation Trap table.

The *sitname* value specifies the situation name or name pattern for the entry. An asterisk indicates a wildcard character. The *originnode* value specifies the source where the situation data was collected. An asterisk indicates a wildcard character. The *state* value specifies the current state of the situation required to match an event. Valid values are TRUE, FALSE, UNKNOWN, or ANY.

### System action

Message KFAA096I follows this message to display the action and alert emitter assigned to situation events that match this entry.

### User response

None.

**KFAA096I: DESTNODE=*destnode* CALLTYPE=*calltype* SCRIPT=*script***

### Explanation

This informational message, which follows message KFAA095I, displays the alert emitter destination node and the method to be used by the alert emitter to deliver the alert.

The *destnode* value specifies the alert emitter name. The *calltype* value specifies the call method to be used to deliver action requests and alerts to the alert emitter:

- **Zero:** An automation script (REXX™ exec) is executed by the alert emitter.
- **Non-zero:** The alert is forward to an alert subagent by the alert emitter.

The *script* value specifies the command to be executed (if CALLTYPE=0) or the name of the alert subagent to be notified (if CALLTYPE is non-zero).

### System action

Message KFAA097I follows this message to display the action arguments to be passed to the alert emitter.

### User response

None.

**KFAA097I: ARGn=*value***

### Explanation

This informational message, which follows message KFAA096I, lists all arguments to be passed in the formatted command string transmitted to alert emitters.

### System action

The next Situation Trap table entry follows.

### User response

None.

**KFAA100I: STACK SIZES: OG=*curr/hih2o* CT=*curr/hih2o* SNMP=*curr/hih2o***

### Explanation

This informational message is issued after all Situation Trap table entries are displayed in response to a KFAASITR REFRESH console command (z/OS® Tivoli Enterprise™ Monitoring Server only). The message displays the number of elements cached for OG/z/OS, CT®, and SNMP alert emitters.

The *curr* value indicates the current number of cached SQL1 requests stored. The *hih2o* value indicates the highwater mark of cached SQL1 requests created since the start of the Tivoli Enterprise™ Monitoring Server.

### System action

None.

### User response

None.

## **KFAA193E: ACTION ENVIRONMENT INITIALIZATION ERROR=*errno***

### **Explanation**

The action environment could not be initialized because of a POSIX pthread\_once service routine failure. The *errno* value shows the error number.

### **System action**

No further action is taken to initialize the environment.

### **User response**

Contact IBM® Software Support.

## **KFAA200E: ACTION ENVIRONMENT NOT INITIALIZED DISPLAY COMMAND ENDED**

### **Explanation**

This message is issued when a console command to display the situation trap table (as defined by the KFAASITR runtime parameter file) could not be executed because the action environment failed to initialize.

### **System action**

No further action is taken to display the situation trap table.

### **User response**

Review the messages issued before this message, to determine the cause of environment initialization failure.

## **KHD messages**

Messages that begin with the KHD prefix are associated with the Warehouse Proxy Agent on both z/OS® and distributed platforms.

## **KHD001: Inserted *variable* rows of data into *variable* (application *variable*) for *variable***

### **Explanation**

The Warehouse Proxy Agent successfully inserted data in the database table for the given agent managed system.

### **System action**

None.

### **User response**

None.

## **KHD004: Stopped writing short-term historical data to files. Total size of historical files *variable*KB exceeded the maximum of *variable*KB.**

### **Explanation**

Writing of historical data into the short term historical files has been suspended.

**System action**

The threshold specified by the variable KHD\_TOTAL\_HIST\_MAXSIZE for the specified directory has been met and historical data writing to the short term history files has been suspended. After the data has been offloaded to the WPA and the threshold is no longer exceeded, writing of data will restart. If this does not happen, delete short term historical files to resume the write operation.

**User response**

None.

**KHD005: Restarted writing short-term historical data to files. Total size of historical files *variable*KB is now less than maximum of *variable*KB. Data was not recorded for *variable* hours**

**Explanation**

The threshold specified by the KHD\_TOTAL\_HIST\_MAXSIZE is no longer being exceeded, so writing of data into the short term history files has been resumed. No further action is necessary.

**System action**

None.

**User response**

None.

**KHD006: Export failed for attribute group *variable***

**Explanation**

An error occurred while attempting to export historical data to the Warehouse Proxy Agent to be inserted into the Tivoli Data Warehouse.

**System action**

None.

**User response**

The operator should inspect if the Warehouse Proxy Agent is active and running and if there are any problems with its connection to the database or between the agent and the Warehouse Proxy Agent.

**KHD007: History initialization failed for attribute group *variable***

**Explanation**

An error occurred while attempting to initialize the history collection for the given attribute group.

**System action**

None.

**User response**

The operator should check the log files where the error occurred for the details on the problem that resulted in failure to export the data after an upgrade introduced new columns to the attribute group.

**KMS messages**

The messages that begin with the KMS prefix are associated with the Tivoli Enterprise™ Monitoring Server on both z/OS® and distributed platforms.

## **KMS0101: Tivoli Enterprise™ Monitoring Server (TEMS) shutdown requested.**

### **Explanation**

A request to shutdown the Tivoli Enterprise™ Monitoring Server (TEMS) has been received.

## **KMS0150: Tivoli Enterprise™ Monitoring Server (TEMS) shutdown deferred.**

### **Explanation**

A request to shutdown the Tivoli Enterprise™ Monitoring Server (TEMS) has been received but cannot be processed immediately. Shutdown will proceed as soon as possible.

## **KO4 messages**

The messages that begin with the KO4 prefix are associated with the Tivoli Enterprise™ Monitoring Server, both on the distributed and z/OS® platforms.

## **KO40017: Distributed request failed for *variable* with status= *variable*.**

### **Explanation**

The Tivoli Enterprise Monitoring Server (TEMS) program encountered a communications error.

### **Operator response**

A communications error has occurred. The TEMS is not connected to the HUB. Correct the condition causing the communications error.

## **KO41031: Situation *variable* is true.**

### **Explanation**

Situation *variable* is occurring. This situation continues to be true until message KO41032 is written to the Tivoli Enterprise™ Monitoring Server (TEMS) product log.

### **Operator response**

If you have AUTOMATED FACILITIES, you may want to define or start a policy.

## **KO41032: Situation *variable* is no longer true.**

### **Explanation**

Situation *variable* is no longer occurring.

### **Operator response**

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server product. Message KO41031 shows you when the situation *variable* became true.

## **KO41034: Monitoring for situation *variable* ended.**

### **Explanation**

Monitoring for non-enterprise situation *variable* ended. AUTOMATED FACILITIES policies may also end situations.

## **KO41035: Object *variable* changed by *variable*.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO41036: Monitoring for situation *variable* started.**

### **Explanation**

You may start a situation using a start situation command. All situations defined to autostart do so during the start of Tivoli Enterprise™ Monitoring Server (TEMS) processing. AUTOMATED FACILITIES policies may also start situations.

## **KO41037: Situation *variable* is no longer true.**

### **Explanation**

Situation *variable* is no longer occurring.

### **Operator response**

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server (TEMS) product log. Message KO41031 shows you when the situation became true.

## **KO41038: Situation *variable* is true.**

### **Explanation**

Situation *variable* is occurring. This situation continues to be true until message KO41037 is written to the Tivoli Enterprise™ Monitoring Server (TEMS) product log.

### **Operator response**

If you have AUTOMATED FACILITIES, you may want to define or start a policy.

## **KO41039: Error in request *variable*. Status= *variable*. Reason= *variable*.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) program encountered an error.

### **Operator response**

The following lists possible error codes. If a reason code appears that is not on this list, note it and contact IBM® Software Support.

Status/Return code	Meaning
1131	Embedded situation not found. -- Check to make sure that all embedded situations exist. If they do, call your service representative.
1133	Incorrect attribute name. Verify that the correct version of application support files for the application in error has been installed on the Tivoli Enterprise™ Monitoring Server and restart the Tivoli Enterprise™ Monitoring Server.
1134	Configuration file in library not found or damaged. -- Install the product again.
1136	Object not found. -- Delete and create the object again. If problem occurs again, contact your service representative.
1145	Incorrect situation name supplied. -- Contact your service representative.

Status/Return code	Meaning
1168	More than 10 levels of embedded situations found. -- Simplify your situation.
1174	Cannot retrieve current attributes for event type situation.
1178	Situation definition is too complex and exceeds system capacity. -- Simplify your situation.
1200	Unexpected *AND
1201	Unexpected *OR
1202	Parenthesis do not match
1203	Generic rule syntax error
1204	Bad comparison operator
1205	Number of subrules exceeds limit
1206	Number of embedded situations exceeds limit
1207	Bad network rule syntax
1208	Rule too complex for reflex
1209	A list enclosed in '(' and ')' is expected
1210	Bad logical operator
1211	Bad argument passed to a function

### KO41041: Enterprise situation *variable* is true.

#### Explanation

A situation, such as CPU greater than 90%, is occurring at the time and date indicated. Situation continues to be true until message KO41042 is written to the log.

### KO41041I: SITUATION EVENT *situation\_event\_id*

*situation\_name:node\_name* <*optional\_display\_item\_value*> T|F *user\_supplied\_content*

#### Explanation

This message is created by the situation Take Action command **ZOSWTO**. A multi-line WTO message is generated when the situation for which the **ZOSWTO** is defined occurs. The message is issued on the z/OS monitoring server (TEMS) that an agent is connected to or on a z/OS agent (TEMA).

The event is identified in the WTO message by the *situation\_event\_id*. *situation\_name* is the name of the situation, and *node\_name* is the origin node related to the event. *optional\_display\_item\_value* is the display item, if one is defined for the situation.

This message is produced when the situation is true (T) or false (F). The *user\_supplied\_content* is the content as defined in the **ZOSWTO** command. When the situation is false, the values of any substitution variables in the *user\_supplied\_content* are N/A.

The message data is divided into 70-character sections on a maximum of five consecutive lines.

### KO41042: Enterprise situation *variable* is no longer true.

#### Explanation

The status is no longer true for this situation.

#### Operator response

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server (TEMS) product log. Message KO41041 shows you when the situation *variable* became true.

### **KO41044: Monitoring for enterprise situation *variable* ended.**

#### **Explanation**

A user or program ended a running situation. AUTOMATED FACILITIES policies may also end situations.

### **KO41046: Monitoring for enterprise situation *variable* started.**

#### **Explanation**

A situation has been started. Possible reasons are:

1. As soon as the Tivoli® Enterprise Monitoring Server starts, all situations set as autostart will be started automatically.
2. New situations marked as autostart will also start automatically as soon as they are created or changed.
3. A situation has been manually started from the Tivoli® Enterprise Portal.
4. A policy has changed the situation state from stopped to started.

### **KO41047: Situation *variable* distribution *variable* variable.**

#### **Explanation**

A situation is distributed or undistributed.

### **KO41048: Policy *variable* distribution *variable* variable.**

#### **Explanation**

A policy is distributed or undistributed.

### **KO41050: Monitoring for situation *variable* paused due to unresolved attributes.**

#### **Explanation**

One or more attributes used in this situation are not defined. The situation is paused until corresponding attribute files are added or updated.

### **KO41052: Monitoring for enterprise situation *variable* paused due to unresolved attributes.**

#### **Explanation**

One or more attributes used in this situation are not defined. The situation is paused until corresponding attribute files are added or updated.

### **KO41054: Monitoring for situation *variable* resumes.**

#### **Explanation**

Monitoring for situation *variable* resumes.

### **KO41056: Monitoring for enterprise situation *variable* resumes.**

#### **Explanation**

Monitoring for enterprise situation *variable* resumes.

**KO42076: Operator reply required for Policy *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO46254: Situation *variable* was reset.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO46255: Situation definition *variable* was updated by *variable*.**

**Explanation**

The situation definition was updated.

**KO46256: Situation definition *variable* was created by *variable*.**

**Explanation**

The situation definition was created.

**KO46257: Situation definition *variable* was deleted by *variable*.**

**Explanation**

The situation definition was deleted.

**KO46258: Predicate compare value *variable* for predicate *variable* is not valid.**

**Explanation**

The predicate compare value *variable* for the predicate *variable* is not valid. It must be numeric.

**Operator response**

Change the compare value to be numeric.

**KO46259: Name not allowed for the message queue library name.**

**Explanation**

Select a message queue in another library.

**KO46260: Predicate data cannot contain a blank field.**

**Explanation**

The first parameter for the PDT field cannot contain a blank.

**Operator response**

Remove the blank in the parameter in the PDT field.

### **KO46261: Only one selection allowed.**

#### **Explanation**

More than one option selected. Only one option can be selected at a time.

#### **Operator response**

Blank out the additional selections and try again.

### **KO46262: Situation definition *variable* printed.**

#### **Explanation**

You printed the situation *variable*.

#### **Operator response**

View the printed situation definition.

### **KO46263: A Tivoli Enterprise™ Monitoring Server (TEMS) data queue error was detected.**

#### **Explanation**

An error message was received.

### **KO46264: Time portion of monitor interval not valid.**

#### **Explanation**

For the TIMEFRQ parameter, the time portion of the monitor interval cannot be less than 000030 if the day portion contains zero.

#### **Operator response**

Increase the monitor interval to at least 000030.

### **KO46265: Attribute *variable* not allowed.**

#### **Explanation**

Attribute *variable* is not allowed in conjunction with attribute *variable* in a predicate. Some attributes cannot be combined in a predicate to form a situation.

#### **Operator response**

Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual to determine if a particular attribute can be combined with another.

### **KO46266: Date and time portions of monitor interval must both be zero.**

#### **Explanation**

For the TIMEFRQ parameter, the day and time portions of the monitor interval must both be zero if all attributes in the situation definition are notification attributes with the same prefix. Attributes can be of two types: Sampled or Notification.

#### **Operator response**

Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual to determine the type of a particular attribute.

**KO46267: Situation definition validation did not occur.**

**Explanation**

You attempted to use \*AVG with a non-integer attribute.

**KO46268: Situation definition *variable* displayed.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO46269: Name *variable* cannot contain blanks.**

**Explanation**

The name *variable* contains embedded blanks.

**Operator response**

Remove embedded blanks from the name.

**KO48001: AUTOMATED FACILITIES started.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO48008: AUTOMATED FACILITIES received request to stop.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO48009: Policy *variable* ended.**

**Explanation**

The policy has completed a pass through its activity graph. No activities are running. Depending on its completion option, the policy then either deactivates or starts another pass through the activity graph.

**KO48010: Policy *variable* started.**

**Explanation**

The policy is starting a pass through its activity graph. All activities having no predecessors are in the running state; all other activities are in the pre-run state. The pass completes when no activities remain in the running state. At that time, message KO48009 is issued. The policy may also be deactivated before it finishes running.

**KO48071: Policy *variable* activated.**

**Explanation**

The policy has been activated. This may occur for three reasons:

1. The policy is marked to autostart and TEMS is starting.
2. A user just created an autostart policy or is manually starting a policy.

3. Another policy contains a CHANGE\_POLICY or embedded policy activity that activates this policy.

**KO48073: Policy *variable*, activity *variable* has started.**

**Explanation**

Activity started in the policy.

**KO48074: Policy *variable*, activity *variable* ended with end code *variable* reason *variable*.**

**Explanation**

Activity *variable* in policy *variable* has finished.

**Operator response**

See the appropriate Automated Facilities reference manual for explanations of end codes.

**KO48076: Policy *variable* has deactivated itself.**

**Explanation**

The policy ended and its **restart upon completion** option was set to **No**. The policy ceases all operations.

**Operator response**

Activate the policy again. To make the policy restart upon completion, change the policy definition so that the restart option is **YES** and then activate it.

**KO48077: Policy *variable* deactivated by external request.**

**Explanation**

An external agent (user or other policy) requested the policy to deactivate. The policy immediately ceases all operations, canceling activities in progress.

**KO48078: Policy *variable* updated by *variable*.**

**Explanation**

The policy *variable* has been updated by policy *variable*.

**KO48079: Activity *variable* in policy *variable* updated by *variable*.**

**Explanation**

The policy has been updated by the user.

**KO48080: Ranking group *variable* updated by *variable*.**

**Explanation**

The ranking group has been updated by the user.

**KO48081: Ranking group entry *variable* in ranking group *variable* updated by *variable*.**

**Explanation**

The ranking group entry in ranking group has been updated by the user.

**KO48082: Policy *variable* created by *variable*.**

**Explanation**

The policy has been created by the user.

**KO48083: Activity *variable* in policy *variable* created by *variable*.**

**Explanation**

The activity in the policy has been created by a user.

**KO48084: Ranking group *variable* created by *variable*.**

**Explanation**

The ranking group has been created by the user.

**KO48085: Ranking group entry *variable* in ranking group *variable* created by *variable*.**

**Explanation**

The ranking group entry in ranking group was created by the user.

**KO48086: Policy *variable* deleted by *variable*.**

**Explanation**

The policy has been deleted by the user.

**KO48087: Activity *variable* in policy *variable* deleted by *variable*.**

**Explanation**

The activity in policy was deleted by the user.

**KO48088: Ranking group *variable* deleted by *variable*.**

**Explanation**

The ranking group was deleted by the user.

**KO48089: Ranking group entry *variable* in ranking group *variable* deleted by *variable*.**

**Explanation**

The ranking group entry in the ranking group was deleted by the user.

**KO48090: Policy *variable* has deactivated. Restart limit exceeded.**

**Explanation**

The policy was defined to restart upon completion and did so more than 5 times in a 10-minute interval. Since the policy was defined with the **limit restarts** option set to **YES**, the policy deactivates instead of restarting. The policy immediately ceases all operations.

**Operator response**

View the error messages that were logged to the product log to determine what the policy was doing. If a logic error was causing the policy to fire too frequently, correct the involved definitions and reactivate the policy.

**KO48091: Changing priority for job *variable* (job number *variable*) to *variable*.**

**Explanation**

The policy *variable* with an activity *variable* is changing the priority for job *variable* to *variable*.

**KO48092: Changing job queue for job *variable* (job number *variable*) to *variable*.**

**Explanation**

The policy *variable* with an activity *variable* is changing the job queue for the job *variable* to *variable*.

**KO48093: Changing time slice for job *variable* (job number *variable*) to *variable*.**

**Explanation**

The policy *variable* with an activity *variable* is changing the time slice for the job *variable* to *variable*.

**KO48095: Changing output queue for job *variable* (job number *variable*) to *variable*.**

**Explanation**

The policy *variable* with an activity *variable* is changing the output queue for the job *variable* to *variable*.

**KO48096: Policy *variable*, activity *variable* - Changing policy *variable* to status *variable*.**

**Explanation**

The policy *variable* with an activity *variable* is changing the policy's status. *variable* to *variable*.

**KO48097: Changing activity level for pool *variable* to *variable*.**

**Explanation**

The policy *variable*, activity *variable* is changing the activity level for pool *variable* to *variable*.

**KO48098: Changing size for pool *variable* to *variable*.**

**Explanation**

The policy *variable*, activity *variable* is changing the size for the pool *variable* to *variable*.

**KO48099: Policy *variable*, activity *variable* - Changing situation *variable* to status *variable*.**

**Explanation**

The policy *variable*, activity *variable* is changing the situation *variable* to status *variable*.

**KO48100: The definition of Policy *variable* contains an error which is preventing the Policy from starting.**

**Explanation**

The definition of the specified Policy contains an error that has prevented its construction. Usually this occurs because an Activity within the Policy's Workflow could not be created. If this is the case, additional messages will identify the relevant Activities. Further details regarding the problem will be provided in the TEMS RAS log.

**KO48101: Policy *variable* encountered an error while adding Activity *variable* to its Workflow.**

**Explanation**

The specified Policy could not add the named Activity to its Workflow. Such errors prevent the Policy from running. Further details regarding the problem will be provided in the TEMS RAS log.

**KO48106: Ending job *variable* (job number *variable*).**

**Explanation**

The policy *variable*, activity *variable* is ending the job *variable*.

**KO48110: Policy *variable*, activity *variable* - Evaluating situation *variable*.**

**Explanation**

The policy *variable*, activity *variable* is evaluating the situation *variable*.

**KO48112: Holding job *variable* (job number *variable*).**

**Explanation**

The policy *variable*, activity *variable* is holding the job *variable*.

**KO48113: Policy *variable*, activity *variable* paused while waiting for the situation to be created.**

**Explanation**

Policy *variable*, activity *variable* paused until the situation becomes available.

**KO48114: Policy *variable*, activity *variable* resumes.**

**Explanation**

Policy *variable*, activity *variable* resumes after previous reported problem has been resolved.

**KO48115: Policy *variable*, activity *variable* paused due to unresolved attributes.**

**Explanation**

Policy *variable*, activity *variable* paused due to unresolved attributes in the situation.

**KO48119: Releasing job *variable* (job number *variable*).**

**Explanation**

The policy *variable*, activity *variable* is releasing job *variable*.

**KO48139: Policy *variable*, activity *variable* - Writing data to user automation data queue.**

**Explanation**

The policy *variable*, activity *variable* is writing data to a user automation data queue.

**KO48140: Policy *variable*, activity *variable* - Proceeding to user choice activity - *variable***

**Explanation**

The policy *variable*, activity *variable* is proceeding to the user choice activity *variable*.

**KO48141: Policy *variable*, activity *variable* - Presenting user choice to *variable*.**

**Explanation**

The policy *variable*, activity *variable* is presenting the user choice to *variable*.

**KO48142: Policy *variable*, activity *variable* - Transferring user choice from *variable* to *variable* at request of *variable*.**

**Explanation**

The policy *variable*, activity *variable* is transferring the user choice from *variable* to *variable* at the request of *variable*.

**KO48143: Policy *variable*, activity *variable* - Escalating user choice from *variable* to *variable* due to timeout.**

**Explanation**

The policy *variable*, activity *variable* is escalating the user choice from *variable* to *variable* due to timeout.

**KO48144: Policy *variable*, activity *variable* - Escalating user choice from *variable* to *variable* at request of *variable*.**

**Explanation**

The policy *variable*, activity *variable* is escalating the user choice from *variable* to *variable* at the request of *variable*.

**KO48145: Policy *variable*, activity *variable* - Canceling user choice action due to timeout.**

**Explanation**

The policy *variable*, activity *variable* is canceling the user choice action due to a timeout.

**Operator response**

Change the timeout parameters.

**KO48148: Policy *variable*, activity *variable* - Waiting for *variable* seconds.**

**Explanation**

The policy *variable*, activity *variable* is waiting for *variable* seconds.

**KO48150: Policy *variable*, activity *variable* - Running policy *variable*.**

**Explanation**

The policy *variable*, activity *variable* is running policy *variable*.

**KO48151: Policy *variable*, activity *variable* - Waiting for event from situation *variable*.**

**Explanation**

The policy *variable*, activity *variable* is waiting for an event from situation *variable*.

**KO48152: Situation *variable* could not find message queue *variable*.**

**Explanation**

The message queue specified to receive reports of situations firing could not be found.

**Operator response**

Create the queue or add the library where the queue exists.

**KO48153: Policy *variable*, activity *variable* - Executing command at *variable* - *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO48154: Execute command- *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO48155: Execute command- *variable* and *variable* additional commands of the same form.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO48156: Not able to start monitoring for situation *variable*.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO49014: Situation list printed.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO49015: Situation *variable* embedded in situation *variable*. Not deleted.**

**Explanation**

The situation you have requested to delete is imbedded in another situation.

**Operator response**

Either delete situation *variable* or change it so that it does not reference situation *variable*.

**KO49016: Situation *variable* imbedded in policy *variable*. Not deleted.**

**Explanation**

The situation you requested to delete is imbedded in a policy.

**Operator response**

Either delete policy *variable* or change it so that it does not reference situation *variable*.

**KO49017: Policy *variable* embedded in policy *variable*. Not deleted.**

**Explanation**

The policy you requested to delete is imbedded in another policy.

**Operator response**

Either delete policy *variable* or change it so that it does not reference policy *variable*, or delete policy *variable* first.

## **KO49019: Tivoli Enterprise™ Monitoring Server (TEMS) log not displayed.**

### **Explanation**

Not able to display the message queue for the Tivoli Enterprise™ Monitoring Server.

### **Operator response**

View the joblog for specific reasons.

## **KO49020: Situation validation failed. \*MAX cannot be used with this attribute.**

### **Explanation**

Attempt to use \*MAX with a non-integer attribute.

## **KO49021: Situation validation failed. \*MIN cannot be used with this attribute.**

### **Explanation**

Attempt to use \*MIN with a non-integer attribute.

## **KO49022: Situation validation failed. This operator cannot be used with this attribute.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO49023: Situation validation failed. \*COUNT not valid for this attribute.**

### **Explanation**

Attempt to use \*COUNT with a non-integer attribute.

## **KO49024: Situation validation failed. \*STR cannot be used with this attribute.**

### **Explanation**

Attempt to use \*STR with a non-string attribute.

## **KO49025: Situation validation failed. Incorrect compare value for \*STR.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO49026: Situation validation failed. \*TIME cannot be used with this attribute.**

### **Explanation**

Attempt to use \*TIME with a non-time attribute.

**KO49027: Situation validation failed. Compare value not valid for \*TIME.**

**Explanation**

Format of \*TIME compare value was not entered correctly.

**User response**

Enter the correct format for the \*TIME compare value. Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual for details.

**KO49028: Tivoli Enterprise™ Monitoring Server (TEMS) did not complete startup.**

**Explanation**

Security level validation did not complete.

**Operator response**

View the joblog for additional messages.

**KO49029: Situation *variable* not a candidate for get current attribute.**

**Explanation**

The situation *variable* contains event-driven attribute.

**Operator response**

Do not attempt to add a get current attribute for this situation.

**KO49030: Situation validation did not complete. \*SUM cannot be used with this attribute.**

**Explanation**

Attempted to use \*SUM with a non-integer attribute.

**KO49031: Status list printed.**

**Explanation**

View the status list.

**KO49032: Situation status printed.**

**Explanation**

View the printed situation status.

**KO49033: Nothing printed; list is empty.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO49034: Situation *variable* is an enterprise situation. Not deleted.**

**Explanation**

The situation *variable* is an enterprise situation that can be deleted only from OMEGAVIEW®.

**Operator response**

Delete situation *variable* from OMEGAVIEW®.

**KO49035: Object *variable* in library *variable* type *variable* not found or not usable.**

**Explanation**

The startup process cannot continue because object *variable* could not be used.

**Operator response**

Check library *variable* for *variable* and fix the problem. If not found, install Tivoli Enterprise™ Monitoring Server (TEMS) again.

**KO49036: Situation *variable* is an enterprise situation. Not changed.**

**Explanation**

The situation *variable* is an enterprise situation that can be changed only from OMEGAVIEW®.

**Operator response**

Change situation *variable* from OMEGAVIEW®.

**KO49037: Tivoli Enterprise™ Monitoring Server (TEMS) or AUTOMATED FACILITIES command failure occurred.**

**Explanation**

An error occurred in an Tivoli Enterprise™ Monitoring Server (TEMS) or an AUTOMATED FACILITIES command.

**Operator response**

To determine cause, view the Tivoli Enterprise™ Monitoring Server job log, restart the Tivoli Enterprise™ Monitoring Server and fix the problem accordingly.

**KO49038: Situation validation failed; cannot use \*SNGPDT predicate with \*SIT predicate.**

**Explanation**

Attempted to create a situation with a single situation predicate. A \*SIT predicate must have a minimum of two predicates.

**Operator response**

Add more predicates using \*AND or \*OR in the predicate relation.

**KO49040: Situation *variable* is not a candidate for the Reset option.**

**Explanation**

The situation *variable* is a sample-driven situation and thus cannot be reset.

## **KO49041: Situation *variable* ended abnormally.**

### **Explanation**

An error was encountered on this situation or possibly on another situation for which a similar message is being issued. The error required this situation and the situation in error (if different) to be shut down. Some examples of the types of errors that can cause this condition follow:

- The situation predicate may not have sufficiently narrowed the scope of things to be examined. This may have resulted in overloading Tivoli Enterprise™ Monitoring Server (TEMS) with too much data.
- The situation may have used \*ACGJB or \*SEC attributes without having the necessary SYSVALs set, or without having set up the necessary journals and journal receivers.
- A job or subsystem required to evaluate the situation may have been ended by an operator.

The above is not an exhaustive list of possible errors.

### **Operator response**

Look for a KO49044 log entry issued at about the same time as this message. That log entry indicates which TEMS job encountered the error. The job may still be active. Examine the joblog for clues about the ultimate cause of the error. Correct the situation in error before attempting to restart it.

### **Administrator Response**

If the situation was started explicitly by an operator, then the situation is shut down. If the situation was running in an AUTOMATED FACILITIES policy as a \*SIT activity type or an \*EVALUATE\_SITUATION activity program, then the activity containing the situation ends with a \*PROBLEM endcode.

## **KO49042: Situation *variable* is occurring; *variable* events available for status.**

### **Explanation**

The event is occurring; the data of 10 events is kept and the previous events are deleted.

## **KO49043: Situation *variable* is occurring; *variable* events available for status; oldest events discarded.**

### **Explanation**

The event is occurring; the data of 10 events is kept and the previous events are deleted.

## **KO49044: Job *variable* encountered an error.**

### **Explanation**

An error was encountered by this Tivoli Enterprise™ Monitoring Server (TEMS) job. Some examples of the types of errors that may have been encountered follow:

- A situation predicate may not have sufficiently narrowed the scope of things to be examined. This may have resulted in overloading TEMS with too much data.
- A situation may have used \*ACGJB or \*SEC attributes without having the necessary SYSVALs set, or without having set up the necessary journals and journal receivers.
- A job or subsystem required to evaluate a situation may have been ended by an operator.

The above is not an exhaustive list of possible errors.

### **Operator response**

Examine the joblog for *variable* to find the error or errors. Correct the errors before attempting the same functions again.

**KO40V01I: Override *<variable>* for situation *<variable>* starting.**

**Explanation**

A situation override is starting.

**KO40V02I: Override *<variable>* for situation *<variable>* stopped.**

**Explanation**

A situation override is stopped.

**KO40V03E: Override *<variable>* for situation *<variable>* encountered error code *<variable>*.**

**Explanation**

A situation override encountered an error.

**KO40V04W: Override *<variable>* for situation *<variable>* uses unknown type *<variable>*.**

**Explanation**

A situation override encountered an unknown type.

**KO40V05I: Calendar *<variable>* starting.**

**Explanation**

A calendar is starting.

**KO40V06I: Calendar *<variable>* stopped.**

**Explanation**

A calendar is stopped.

**KO40V07E: Calendar *<variable>* encountered error code *<variable>*.**

**Explanation**

A calendar encountered an error.

**KO40V08I: Override *<variable>* for situation *<variable>* activated.**

**Explanation**

Activation request has been sent to the agents.

**KO40V09I: Override *<variable>* for situation *<variable>* deactivated.**

**Explanation**

Deactivation request has been sent to the agents.

**KO40V010I: Override <variable> for situation <variable> waiting for calendar <variable>.**

**Explanation**

Override is waiting for a Calendar to be added.

**KO40V011I: Calendar <variable> activated.**

**Explanation**

Calendar activation request has been sent to the agents.

**KO40V012I: Calendar <variable> deactivated.**

**Explanation**

Calendar deactivation request has been sent to the agents.

**KO4SRV001: Tivoli Enterprise™ Monitoring Server (TEMS) startup in progress.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV002: Tivoli Enterprise™ Monitoring Server (TEMS) startup job already running.**

**Explanation**

You tried to start the Tivoli Enterprise™ Monitoring Server but it is already in the process of starting. Another user has already issued the start command.

**User response**

Wait until the earlier startup process is complete and then try again.

**KO4SRV003: Starting Tivoli Enterprise™ Monitoring Server (TEMS) network server.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV004: Network server active.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV005: Starting Tivoli Enterprise™ Monitoring Server (TEMS) network requesters.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV006: Network requesters active.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV007: Starting Tivoli Enterprise™ Monitoring Server (TEMS) local directory server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV008: Local directory server active.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV009: Starting Tivoli Enterprise™ Monitoring Server (TEMS) global directory server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV010: Global directory server active.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV011: Starting Tivoli Enterprise™ Monitoring Server (TEMS) data collection server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV012: Data collection server active.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV013: Starting Tivoli Enterprise™ Monitoring Server (TEMS) network data collection server.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV014: Network data collection server active.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV015: Starting Tivoli Enterprise™ Monitoring Server (TEMS) situation monitor.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV016: Situation monitor active.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV017: Tivoli Enterprise™ Monitoring Server (TEMS) shutdown in progress.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV018: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) situation monitor.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

### **KO4SRV019: Situation monitor stopped.**

#### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV020: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) data collection server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV021: Data collection server stopped.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV022: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) network data collection server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV023: Network data collection server stopped.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV024: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) network services.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV025: Network services stopped.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV026: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) global directory server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV027: Global directory server stopped.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV028: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) local directory server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV029: Local directory server stopped.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV030: Tivoli Enterprise™ Monitoring Server (TEMS) shutdown completed.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server was requested to shut down.

## **KO4SRV031: Tivoli Enterprise™ Monitoring Server (TEMS) startup job already on job queue.**

### **Explanation**

The job queue already contains a Tivoli Enterprise™ Monitoring Server startup job.

### **Operator response**

Ensure the library subsystem is active and the job queue is not held.

## **KO4SRV032: Tivoli Enterprise™ Monitoring Server (TEMS) startup complete.**

### **Explanation**

All required components of the Tivoli Enterprise™ Monitoring Server are active in the library subsystem.

## **KO4SRV033: Tivoli Enterprise™ Monitoring Server (TEMS) no longer active.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server has ended since this command was last used.

### **Operator response**

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server product log and then restart the Tivoli Enterprise™ Monitoring Server.

## **KO4SRV034: Tivoli Enterprise™ Monitoring Server (TEMS) requested to end during startup.**

### **Explanation**

Before the Tivoli Enterprise™ Monitoring Server startup processing completed, an end the Tivoli Enterprise™ Monitoring Server command was issued.

### **Operator response**

Restart the Tivoli Enterprise™ Monitoring

## **KO4SRV035: Starting Tivoli Enterprise™ Monitoring Server (TEMS) worklist manager.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV036: Worklist manager active.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV037: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) worklist manager.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV038: Worklist manager ended.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV039: Starting Tivoli Enterprise™ Monitoring Server (TEMS) data collection event notification.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV040: Data collection event notification active.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV041: Starting Tivoli Enterprise™ Monitoring Server (TEMS) situation monitor status queuing.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV042: Situation monitor status queuing active.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV043: Ending Tivoli Enterprise™ Monitoring Server (TEMS) data collection event notification.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV044: Data collection event notification ended.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV045: Stopping Tivoli Enterprise™ Monitoring Server (TEMS) situation monitor status queuing.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV046: Situation monitor status queuing ended.**

**Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

**KO4SRV047: Validation could not be performed.**

**Explanation**

Tivoli Enterprise™ Monitoring Server (TEMS) is not active. Validation requires that the Tivoli Enterprise™ Monitoring Server be active.

**Operator response**

Activate the Tivoli Enterprise™ Monitoring Server.

## **KO4SRV048: Tivoli Enterprise™ Monitoring Server (TEMS) did not start. Status codes- *variable/variable*.**

### **Explanation**

The Tivoli® Enterprise Monitoring Server did not start successfully.

### **Operator response**

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server product log. Restart the Tivoli Enterprise™ Monitoring Server. Usually the second code is 0, and the first code is the Windows® error, unless the first code is 8, in which case the second code is the Windows® error. The most common error codes to expect in the first error codes position are as follows:

- 13 ERROR\_INVALID\_DATA: The specified dispatch table contains entries that are not in the proper format.
- 123 ERROR\_INVALID\_NAME: The specified service name is invalid.
- 1056 ERROR\_SERVICE\_ALREADY\_RUNNING: The process has already called StartServiceCtrlDispatcher. Each process can call StartServiceCtrlDispatcher only one time. On Windows NT®, this value is not supported.
- 1060 ERROR\_SERVICE\_DOES\_NOT\_EXIST: The specified service does not exist.
- 1063 ERROR\_FAILED\_SERVICE\_CONTROLLER\_CONNECT: Typically, this error indicates that the program is being run as a console application rather than as a service. If the program will be run as a console application for debugging purposes, structure it such that service-specific code is not called when this error is returned.

## **KO4SRV049: The Tivoli Enterprise™ Monitoring Server (TEMS) started.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV050: Startup failed due to errors in environment definitions.**

### **Explanation**

A startup parameter file in a library does not contain all required parameter fields, and startup is ended. The startup parameter file in the library contains fewer parameter fields than the startup program expects.

### **Operator response**

Verify installation procedures. You can also install and then try to start Tivoli Enterprise™ Monitoring Server (TEMS) again.

## **KO4SRV051: Tivoli Enterprise™ Monitoring Server (TEMS) cannot process this command.**

### **Explanation**

This command returned a completion code. Completion codes and their meanings follow:

<i>Table 140: Completion codes for Tivoli Enterprise™ Monitoring Server program (message KO41039)</i>	
<b>Completion code</b>	<b>Meaning</b>
5	The Tivoli Enterprise™ Monitoring Server program is not active
4	This command is not at the correct release level.
3	The services that this command requests are busy.

### Operator response

If the Tivoli Enterprise™ Monitoring Server is not active, start it. If the command is not at the correct release level, ensure all required maintenance is installed and try again. If the requested services are busy, try the command again.

### **KO4SRV052: The Tivoli Enterprise™ Monitoring Server (TEMS) not active.**

#### Explanation

The system received a Tivoli Enterprise™ Monitoring Server command, but the Tivoli Enterprise™ Monitoring Server has not been started. Check the message log to identify which command was sent.

### Operator response

Start the Tivoli Enterprise™ Monitoring Server and then try the command again.

### **KO4SRV053: Tivoli Enterprise™ Monitoring Server (TEMS) already active.**

#### Explanation

The START TEMS command has already been issued and the Tivoli Enterprise™ Monitoring Server is already active.

### **KO4SRV054: Job *variable/variable* submitted.**

#### Explanation

Job *variable/variable* was submitted to job queue *variable* in *variable*. The job that starts the Tivoli Enterprise™ Monitoring Server (TEMS) program has submitted the CMS program batch job. The Tivoli Enterprise™ Monitoring Server is now active.

### **KO4SRV055: Job *variable* submitted to batch job queue.**

#### Explanation

The START TEMS command submitted job *variable*.

### User response

Determine which job queue contains the batch job and review other details about the job.

### **KO4SRV056: Unable to start Tivoli Enterprise™ Monitoring Server (TEMS) task *variable*.**

#### Explanation

The Tivoli Enterprise™ Monitoring Server command could not start the task *variable*, which is missing or incorrect.

### Operator response

Check the log for messages. Also, ensure that the library subsystem, job queue, user profile, path, and/or library path exist and are correct. If these are missing, install the Tivoli Enterprise™ Monitoring Server again.

### **KO4SRV057: Tivoli Enterprise™ Monitoring Server (TEMS) not ended.**

#### Explanation

The value for the **Confirm request to end** prompt was **No**. The Tivoli Enterprise™ Monitoring Server is still active.

### Operator response

To end the Tivoli Enterprise™ Monitoring Server, reply **Yes** to **Confirm request to end**.

### **KO4SRV058: Tivoli Enterprise™ Monitoring Server (TEMS) had ended.**

#### Explanation

The Tivoli Enterprise™ Monitoring Server stopped.

### **KO4SRV059: Tivoli Enterprise™ Monitoring Server (TEMS) stopped unexpectedly.**

#### Explanation

The Tivoli Enterprise™ Monitoring Server program cannot continue because of an unexpected processing failure.

### Operator response

Check the job log for messages and Tivoli Enterprise™ Monitoring Server job status.

### **KO4SRV060: Tivoli Enterprise™ Monitoring Server (TEMS) ended Situation *variable*.**

#### Explanation

The Tivoli Enterprise™ Monitoring Server received and acknowledged a request to end the situation and has ended the situation.

### **KO4SRV061: Tivoli Enterprise™ Monitoring Server (TEMS) starting Situation *variable*.**

#### Explanation

The Tivoli Enterprise™ Monitoring Server received and acknowledged a request to start the situation and is now doing so.

### **KO4SRV062: Command *variable* did not complete.**

#### Explanation

The *variable* command is pending, but the Tivoli Enterprise™ Monitoring Server (TEMS) subsystem is busy. A timeout error occurred between issuing command and running and running of Tivoli Enterprise™ Monitoring Server jobs. The Tivoli Enterprise™ Monitoring Server program did not acknowledge the request.

### Operator response

Check the status of the job and view the previously listed messages. If no errors occur, try command again.

### **KO4SRV063: Tivoli Enterprise™ Monitoring Server (TEMS) request *variable* did not complete.**

#### Explanation

The command *variable* was not able to complete the request due to a program error. An incorrect response was received from the situation monitor component.

### Operator response

View all error messages that were logged to the Tivoli Enterprise™ Monitoring Server product log. Check all Tivoli Enterprise™ Monitoring Server joblogs for messages.

**KO4SRV064: Situation definition *variable* was deleted.**

**Explanation**

The definition is deleted. If the situation was active, it remains active until you stop it.

**Operator response**

Verify that the situation *variable* is active.

**KO4SRV065: Situation definition *variable* was created.**

**Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) **CREATE SITUATION** command created situation *variable*.

**KO4SRV066: Situation list printed.**

**Explanation**

Pressing the appropriate function key caused the entire situation list to be printed.

**User response**

View the situation list.

**KO4SRV067: The situation definition *variable* changed.**

**Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) change situation command changed the situation definition.

**Operator response**

If the situation is active, changes do not take place until the situation is ended and then restarted.

**KO4SRV068: Input was not supplied for required fields.**

**Explanation**

A required parameter was not specified.

**Operator response**

Enter the correct value for highlighted fields.

**KO4SRV069: The situation definition *variable* not found.**

**Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) could not locate situation definition *variable*.

**Operator response**

Ensure that situation *variable* is spelled correctly.

**KO4SRV070: Configuration information has changed.**

**Explanation**

The **CONFIGURE TEMS** command was used to change configuration options.

### **Operator response**

View current configuration options. End the Tivoli Enterprise™ Monitoring Server (TEMS) and then start it again to run with new options.

### **KO4SRV071: Data not valid for this field.**

#### **Explanation**

Tivoli Enterprise Monitoring Server (TEMS) detected incorrect data for a specific field. For example, a field that requires numeric data contains character data.

#### **Operator response**

Verify that you are using the type of data required for this field.

### **KO4SRV072: Not able to read record in configuration file.**

#### **Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) encountered an error condition with a message ID while reading a keyed record in a file. Either the key length is incorrect or an I/O error occurred. The configuration file is not read.

#### **Operator response**

Check the file for errors and try the configuration command again.

### **KO4SRV073: Not able to locate record in configuration file.**

#### **Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) encountered an error condition with an error ID while locating keyed a record in a file. Either the file was not opened for read operations or an I/O error occurred. The configuration file was not read.

#### **Operator response**

Check the configuration file for errors and try the command again.

### **KO4SRV074: Not able to update record in configuration file.**

#### **Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) encountered an error condition with an error ID, while updating a keyed record in a file. Either the file was not opened for update operations, or an I/O error occurred. The configuration file is not updated.

#### **Operator response**

Check the configuration file for errors and try the command again.

### **KO4SRV075: Situation definition *variable* already exists.**

#### **Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) detected that situation definition *variable* was already defined.

#### **Operator response**

Before creating or renaming this situation definition, change the situation definition name, delete the existing situation definition, or omit the command.

### **KO4SRV076: Situation monitoring for *variable* already is active.**

#### **Explanation**

A Tivoli Enterprise™ Monitoring Server (TEMS) start command was issued for situation definition *variable*. The Tivoli Enterprise™ Monitoring Server display situation command shows all active situations.

#### **Operator response**

If situation *variable* contains mixed case, put quotes around definition and try command again.

### **KO4SRV077: Situation monitoring for *variable* is not active.**

#### **Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) detected that situation *variable* is not active. The Tivoli Enterprise™ Monitoring Server display situation command shows all active situations.

#### **Operator response**

If situation *variable* contains mixed case, put quotes around definition and try command again.

### **KO4SRV078: National Language Support conversion failed.**

#### **Explanation**

Tivoli Enterprise™ Monitoring Server (TEMS) program was not able to translate the contents of a text description field.

#### **Operator response**

View specific messages in the product and job logs.

### **KO4SRV079: Value *variable* is not valid for parameter *variable*.**

#### **Explanation**

A required value was not entered for this parameter.

#### **Operator response**

Enter the correct value for this parameter.

### **KO4SRV080: Value *variable* is not valid for parameter *variable*.**

#### **Explanation**

A required value was not entered for the parameter.

#### **Operator response**

Enter the correct value for the required field.

### **KO4SRV081: Value *variable* is not valid for parameter *variable*.**

#### **Explanation**

The first character must be alphabetic.

**KO4SRV082: \*PROMPT is not allowed for parameter *variable*.**

**Explanation**

The Tivoli Enterprise™ Monitoring Server (TEMS) allows only \*PROMPT for specific fields. This field is not allowed.

**Operator response**

Enter a specific name in field for the *variable* parameter.

**KO4SRV083: Value *variable* not valid for parameter *variable*.**

**Explanation**

No imbedded blanks are allowed.

**Operator response**

Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual for correct values.

**KO4SRV084: Irrecoverable errors while updating configuration file.**

**Explanation**

Not authorized to access this file.

**Operator response**

Contact a user with access privileges. Check the work object authority to see what kind of access you need.

**KO4SRV085: Local directory server *LName* must match Tivoli Enterprise™ Monitoring Server (TEMS) *LName*.**

**Explanation**

The network directory server *LName* must match the one that you specified earlier.

**Operator response**

Enter the correct network directory server *LName*.

**KO4SRV089: Specify \*SNA Directory Server.**

**Explanation**

An \*SNA directory server must be specified when no Tivoli Enterprise Monitoring Server (TEMS) TCP/IP address is present. Message CPF0002 follows.

**KO4SRV090: Value *variable* is not valid for parameter *variable*.**

**Explanation**

Contains variant characters. Invariant characters are uppercase A - Z, lowercase a - z, +, %, &, \*, /, (), ", \_, ., ;, and ?.

**Operator response**

Enter invariant characters.

**KO4SRV091: Predicate attribute *variable* is not known or not valid.**

**Explanation**

You entered an attribute that is not valid.

**Operator response**

Enter a valid attribute or use \*PROMPT to choose an attribute.

**KO4SRV093: Value *variable* is not valid for parameter *variable*.**

**Explanation**

A required value was not specified.

**Operator response**

The first character must be alphabetic or the value must be \*ALL.

**KO4SRV094: Value *variable* not valid for parameter *variable*.**

**Explanation**

First character must be alphabetic or value must be \*PROMPT.

**Operator response**

Change the first character in the parameter *variable* to alphabetic, or change parameter *variable* to \*PROMPT.

**KO4SRV095: Multiple predicates is not allowed with PDTREL value \*SNGPDT.**

**Explanation**

You entered \*SNGPDT in the PDTREL field with more than 1 predicate.

**Operator response**

Enter \*AND or \*OR in the PDTREL field or delete all but 1 predicate in the situation.

**KO4SRV096: Multiple predicates required with PDTREL value \*AND or \*OR.**

**Explanation**

You entered \*AND or \*OR in the PDTREL field but did not enter more than 1 predicate.

**Operator response**

Enter more predicates or enter \*SNGPDT in the PDTREL field.

**KO4SRV097: Predicate relational operator must be \*EQ when function is \*SIT.**

**Explanation**

You entered something other than \*EQ in the relational field when the predicate is another situation.

**Operator response**

Enter \*EQ in the relational operator field or change the PDT field to something other than \*SIT.

### **KO4SRV098: Predicate compare value must be \*TRUE when function is \*SIT.**

#### **Explanation**

You entered something other than \*TRUE in the compare value field when the predicate is another situation.

#### **Operator response**

Enter \*TRUE in the compare value field or change the predicate function to something other than \*SIT.

### **KO4SRV099: Predicate compare value not valid.**

#### **Explanation**

Predicate compare value *variable2* for attribute *variable3* is not valid. Allowed values range from *variable4* to *variable5*.

#### **Operator response**

Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual for compare values.

### **KO4SRV100: Predicate compare value for attribute *variable3* not valid.**

#### **Explanation**

Predicate compare value *variable2* for attribute *variable3* is not valid; allowed values are *variable4*, *variable5*, *variable6*, *variable7*, *variable8*, *variable9*, *variable10*, *variable11*, *variable12*, and *variable13*.

#### **Operator response**

Change the predicate compare value to one of the following: *variable4*, *variable5*, *variable6*, *variable7*, *variable8*, *variable9*, *variable10*, *variable11*, *variable12*, and *variable13*.

### **KO4SRV101: Predicate compare value not known or not valid.**

#### **Explanation**

Compare value *variable* for attribute *variable* not known or not valid.

#### **Operator response**

Enter a correct value. Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual for compare values.

### **KO4SRV102: Predicate attribute *variable* not valid.**

#### **Explanation**

A situation cannot reference itself.

#### **Operator response**

Enter a correct value for this attribute. Refer to the appropriate Tivoli Enterprise Monitoring Server (TEMS) reference manual for attribute values.

### **KO4SRV103: Unable to create the Tivoli Enterprise™ Monitoring Server message queue.**

#### **Explanation**

The Tivoli Enterprise™ Monitoring Server tried to create a message queue to communicate with its companion processes and the create failed.

## **KO4SRV104: The Tivoli Enterprise™ Monitoring Server message receipt failed.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server tried to receive a message from its message queue and the receive failed.

## **KO4SRV105: Send to *variable* failed.**

### **Explanation**

The Tivoli Enterprise™ Monitoring Server manager tried to send a message to *variable*, but the send operation failed.

## **KO4SRV106: Unsupported TEMS option specified.**

### **Explanation**

The parameter passed to the Tivoli Enterprise™ Monitoring Server is not recognized as a valid operand.

### **Operator response**

Enter a correct value for the Tivoli Enterprise™ Monitoring Server operand. Valid options are START and STOP.

## **KO4SRV107: Detecting Tivoli Enterprise™ Monitoring Server (TEMS) local directory server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV108: Detecting Tivoli Enterprise™ Monitoring Server (TEMS) global directory server.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV109: TEMS *variable* on *variable* is starting.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV110: TEMS *variable* on *variable* is running.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KO4SRV111: TEMS *variable* on *variable* is stopping.**

### **Explanation**

This is an informational message and does not require further action. Typically, this type of message clarifies some aspect of system behavior during normal operations.

## **KQM messages**

The messages that begin with the KQM prefix are associated with Tivoli Enterprise™ Monitoring Server, specifically the hot standby feature.

### **KQM0001: FTO started at *variable*.**

#### **Explanation**

FTO started.

### **KQM0002: FTO ended at *variable*.**

#### **Explanation**

FTO Hot-Standby ended.

### **KQM0003: FTO connected to *variable* at *variable*.**

#### **Explanation**

FTO is trying to connect to the parent Tivoli Enterprise™ Monitoring Server.

### **KQM0004: FTO detected lost parent connection at *variable*.**

#### **Explanation**

FTO/HotStandby has lost connection.

### **KQM0005: FTO has recovered parent connection at *variable*.**

#### **Explanation**

FTO/HotStandby has recovered the lost parent connection.

### **KQM0006: FTO inserted *variable* with id *variable* at *variable*.**

#### **Explanation**

FTO inserted an object with a key.

### **KQM0007: FTO updated *variable* with id *variable* at *variable*.**

#### **Explanation**

FTO updated object *variable* with a key.

**KQM0008: FTO deleted *variable* with id *variable* at *variable*.**

**Explanation**

FTO deleted object *variable*.

**KQM0009: FTO promoted *variable* as the acting HUB.**

**Explanation**

FTO promoted the *variable* Tivoli Enterprise™ Monitoring Server as the hub.

**KQM0010: FTO detected a manual switch at *variable*.**

**Explanation**

FTO detected a manual switch.

**KQM0011: *variable*.**

**Explanation**

An open-ended FTO response.

**KQM0012: FTO routing node *variable* to the parent TEMS.**

**Explanation**

FTO is rerouting a Tivoli Enterprise™ Monitoring Server or a monitoring agent to another Tivoli Enterprise™ Monitoring Server.

**KQM0013: The TEMS *variable* is now the acting HUB.**

**Explanation**

The TEMS has successfully switched to the role of the acting HUB.

**KQM0014: The TEMS *variable* is now the standby HUB.**

**Explanation**

The TEMS has successfully switched to the role of the standby HUB.

**KQMSD100: Inconsistent Self-Describing Agent configuration at FTO peers: Local (*State variable/Status variable*) Peer (*State variable/Status variable*).**

**Explanation**

This message indicates that SDA is not configured consistently on both FTO peers. The State value includes ON, OFF, or ERROR. The Status value includes any integer from 0 to 16 inclusive.

- If SDA is enabled on one peer but not on the other, simply modify the KMS\_SDA environment variable on one of the peers so that the configuration is the same on both monitoring servers.
- If SDA is enabled but the state is ERROR, examine the logs, messages, and audit traces for the offending hub monitoring server. Make any required configuration and environment correction and recycle the hub monitoring server.

The error status code value can be one of the following:

<i>Table 141: Inconsistent Self-Describing Agent configuration at FTO peers status</i>	
<b>Status</b>	<b>Description</b>
1	SDM initialization failed
2	ITM_HOME/CANDLEHOME directory not specified
3	TEMS_MANIFEST_PATH not specified
4	TEMS_MANIFEST_PATH directory length exceeds maximum
5	TEMS_MANIFEST_PATH directory doesn't exist
6	KMS_SDA contains unexpected value
7	SDM Distributed Request Manager failed to initialize
8	SDM Notification Manager failed to initialize
9	Unable to create SDM Request Manager thread
14	SDM Broadcast Request Manager failed to initialize
15	Unable to create SDM Broadcast Manager thread
16	KMS_SDA=N configured on local TEMS

## KRAA messages

The messages that begin with the KRAA prefix are associated with the Audit log of each monitoring agent (SDA refers to a Self-Describing Agent).

**KRAA0001: Self-Describing Agent Installation started for *PRODUCT variable*, with *TEMS variable*, *VERSION\_INFO variable*.**

### Explanation

This message is informational only.

**KRAA0002: Self-Describing Agent Installation has completed successfully for *PRODUCT variable*, with *TEMS variable*, *VERSION\_INFO variable*.**

### Explanation

This message is informational only.

**KRAA0003: Self-Describing Agent Register/Install failed with *STATUS variable* for *PRODUCT variable*, with *TEMS variable*, *VERSION\_INFO variable*.**

### Explanation

This message is informational only.

**KRAA0004: Self-Describing Agent Register/Install giving up after *variable* failed attempts for *PRODUCT variable*.**

### Explanation

This message is informational only.

**KRAA0005: Self-Describing Agent that is connected to non-SDA TEMS *variable* TEMS Version *variable*, for PRODUCT *variable*.**

**Explanation**

This message is informational only.

**KRAA0006: Self-Describing Agent package file *variable* specified in manifest file *variable* does not exist.**

**Explanation**

This message is informational only.

**KRAA0007: Self-Describing Agent manifest file *variable* contains invalid package version specification *variable*.**

**Explanation**

This message is informational only.

**KRAA0008: Validation failed for Self-Describing Agent manifest file *variable* PRODUCT *variable*.**

**Explanation**

This message indicates an validation error occurred and that the agent is not be able to provide SDA support.

**User response**

Refer to the Audit log and RAS1 for other similar messages that indicate the specific SDA manifest file validation error. After you correct the error, recycle the agent to participate in SDA processing.

**KRAA0011: Self-Describing Agent Register/Install has *variable* failed attempts for PRODUCT *variable*. Will retry a maximum of *variable* times.**

**Explanation**

This message is informational only.

**KRAA0012: Self-Describing Agent function disabled by TEMA\_SDA configuration for PRODUCT *variable***

**Explanation**

This message indicates that the TEMA\_SDA=N variable is set for an SDA enabled agent. The SDA feature was intentionally turned off at this agent. This message is informational only.

**KRAA0013: Self-Describing Agent function disabled by TEMS *variable* for PRODUCT *variable*.**

**Explanation**

This message indicates that an SDA-enabled agent connects to a Tivoli Enterprise Monitoring Server that has SDA disabled.

### User response

The Tivoli Enterprise Monitoring Server must have SDA enabled in order for any SDA installations to occur from this agent.

### **KRAA0014: Self-Describing Agent function enabled and ready for PRODUCT *variable*, TEMS *variable***

#### Explanation

This message indicates normal SDA operation for this agent. This message is only issued when the agent SDA operational status changes from “Disabled” to “Enabled” as a result of connecting to a Tivoli Enterprise Monitoring Server that now has SDA turned on. This message is informational only.

### **KRAA0015: Self-Describing Agent function disabled for PRODUCT *variable* due to local SDA file validation error.**

#### Explanation

This message indicates that agent SDA status was disabled due to manifest file validation error. This condition can occur at agent startup time, or while the agent is running and was asked to provide SDA support.

#### User response

After you correct the error condition, recycle the agent to enable its SDA function

### **KRAA0016: Ignoring TEMA\_SDA Configuration! Agent SDA package not found for PRODUCT *variable***

#### Explanation

This message indicates that the TEMA\_SDA=Y setting is ignored because the agent SDA package was not found.

#### User response

Set the variable only when an agent is packaged with SDA support files.

### **KRAA0017: Self-Describing Agent function disabled, expected TEMA\_SDA configuration not found for PRODUCT *variable***

#### Explanation

This message indicates that SDA is disabled because TEMA\_SDA configuration was not set (although the SDA package exists).

#### User response

This variable is required for the agent to provide its SDA support.

### **KRAA0018: Agent operating in Autonomous Only Mode. Self-Describing Agent function disabled for PRODUCT *variable*.**

#### Explanation

This message indicates that the agent is running in Autonomous Only Mode.

#### User response

To use the SDA product installation feature, you must configure the agent to connect to a Tivoli Enterprise Monitoring Server that supports SDA.

## KRA messages

The messages that begin with the KRA prefix are associated with the agent operations log.

### **KRAACMD00: Incorrect FTO configuration! Configure secondary TEMS for this agent!**

#### **Explanation**

The agent received a command from the FTO monitoring server to switch to secondary monitoring server, but no secondary monitoring server is configured on the agent.

### **KRAE042I: EIF event configuration definition failed. Agent EIF emitter feature disabled.**

#### **Explanation**

EIF configuration file was not found or an XML parsing error occurred. Autonomous agent EIF event emitter is disabled as a result.

#### **User response**

1. Message can be ignored if autonomous agent EIF emitter feature is not used.
2. Confirm the location of the EIF configuration XML file. Agent RAS1 log contains the name and location of EIF configuration file in the following message:
  - On distributed systems: \*INFO: Local Agent EIF destination configuration file name <\$ITMHOME\XXX\<pc>\_eventdest.xml>
  - On z/OS: \*INFO: Local Agent EIF destination configuration file name <MQEVDST.RKANDATV>
3. Check the agent operator's log and the agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing the parsing error.

### **KRAIRA000: Starting Enterprise situation <situation> <xxxxxxxxxxx,xxxxxxxxxxx> for <pc.attribute\_name>**

#### **Explanation**

The agent successfully started monitoring for the situation. This message appears twice for situations with a take action command.

### **KRAIRA002: Executed <cmd> with status <errno>.**

#### **Explanation**

Indicates the execution of an action command, where *cmd* is the take action command associated with the situation and *errno* is the error code returned by OS when take action command is executed. The explanation of this error code can be found in standard C library header file *errno.h*.

### **KRAIRA003: TakeSample call abended for <situation> <xxxxxxxxxxx,xxxxxxxxxxx> on <pc.attribute\_name>, stopping request.**

#### **Explanation**

The situation sample failed in the agent collector with an unrecoverable error. The situation request will be stopped by the framework.

## **KRAIRA008: Unable to export SNMP and EIF events for duperized situation *\_Z\_<situation\_name>*, Producer(IRA Constructor)**

### **Explanation**

Agent can not determine the list of situations that were combined into the duperized situation and therefore the agent is unable to export SNMP and EIF events for these situations. To resolve this problem, perform one of the following procedures:

- Disable the duper mechanism on the monitoring server by setting the environment variable CMS\_DUPER=NO.
- Identify situations that are combined into a duperized situation. Then change each situation sampling interval to make it ineligible for duperization.

**Tip:** Use ERROR(UNIT:ko4lodge STATE) trace on TEMS to determine situations combined into a duperized situation. For example, "ko4lodge.cpp,1282,"newSitRec::buildNameAndPredicate") created a new situation *\_Z\_<WTHPHYSDSK2>* by melding <NT\_Physical\_Disk\_Busy\_Warning NT\_Physical\_Disk\_Busy\_Critical> where *\_Z\_<WTHPHYSDSK2>* represents the duperized situation that combines sampling for situations NT\_Physical\_Disk\_Busy\_Warning and NT\_Physical\_Disk\_Busy\_Critical. To resolve the original problem, change the sampling interval for situation NT\_Physical\_Disk\_Busy\_Warning and situation NT\_Physical\_Disk\_Busy\_Critical by a few seconds.

## **KRALOG000: New log file created**

### **Explanation**

The agent operations log (LG0) has been successfully created.

## **KRAMGR000: RPC call Sample for <tems\_handle,agent\_handle> failed, status = <status>**

### **Explanation**

For <status> = 1c010001, the monitoring server process is down or unreachable. The agent lost monitoring server connection and will attempt to reconnect.

For <status> = 210102bd, the monitoring server is unable to locate request matching request handle <tems\_handle>, because the situation was stopped or restarted on the monitoring server, but not on the agent. The agent sent data for the old instance of this situation request. The monitoring server will stop or restart the situation on the agent.

## **KRAMGR001: No HEARTBEAT request found. Initiating reconnect.**

### **Explanation**

The agent deactivated and restarted connection with the monitoring server.

## **KRAREG001: CMS lookup failed.**

### **Explanation**

The agent failed to connect to the monitoring server. The agent will wait for ten minutes before attempting to reconnect.

**KRAREG003: RPC call SubnodeRequest for <xxxxxxxxxx,xxxxxxxxxx> failed, status = <status>**

**Explanation**

The RPC call to register agent subnodes failed. The agent will deactivate the monitoring server connection and attempt to reconnect and re-register subnodes.

**KRRARMN000: IRA rmt server shutting down.**

**Explanation**

The agent is shutting down.

**KRAS021I: SNMP trap emitter stopped.**

**Explanation**

SNMP trap configuration file was not found or an XML parsing error occurred. Autonomous agent SNMP trap emitter feature is disabled due to this error.

**User response**

1. Ignore the message if the autonomous agent SNMP trap-emitted feature is not used.
2. Confirm the location of the SNMP trap configuration file. The agent RAS1 log contains the name and location of the SNMP configuration file in the following message:
  - On distributed systems: \*INFO: Local SNMP Trap configuration file name <\$ITMHOME\XXX\<pc>\_trapcnfg.xml>
  - On z/OS: \*INFO: Local SNMP Trap configuration file name<MQTRAPS.RKANDATV>
3. Check the agent operator's log and the agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing the parsing error.

**KRAS022I: SNMP trap configuration definition failed. Agent trap emitter feature disabled.**

**Explanation**

SNMP trap configuration file was not found or an XML parsing error occurred. Autonomous agent SNMP trap emitter feature is disabled due to this error.

**User response**

1. Ignore the message if the autonomous agent SNMP trap-emitted feature is not used.
2. Confirm the location of the SNMP trap configuration file. The agent RAS1 log contains the name and location of the SNMP configuration file in the following message:
  - On distributed systems: \*INFO: Local SNMP Trap configuration file name <\$ITMHOME\XXX\<pc>\_trapcnfg.xml>
  - On z/OS: \*INFO: Local SNMP Trap configuration file name<MQTRAPS.RKANDATV>
3. Check the agent operator's log and the agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing the parsing error.

## **KRAS041I: EIF event emitter stopped.**

### **Explanation**

EIF configuration file was not found or an XML parsing error occurred. Autonomous agent EIF event emitter is disabled as a result.

### **User response**

1. Message can be ignored if autonomous agent EIF emitter feature is not used.
2. Confirm the location of the EIF configuration XML file. Agent RAS1 log contains the name and location of EIF configuration file in the following message:
  - On distributed systems: \*INFO: Local Agent EIF destination configuration file name <\$ITMHOME\XXX\<pc>\_eventdest.xml>
  - On z/OS: \*INFO: Local Agent EIF destination configuration file name <MQEVDST.RKANDATV>
3. Check the agent operator's log and the agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing the parsing error.

## **KRATBM000: Sample error <status\_code>, for <situation\_name> <xxxxxxxxxxx,xxxxxxxxxx> <pc.attribute\_name>**

### **Explanation**

The situation sample failed with a minor error. The framework expects the agent collector to recover on the next sample. The situation is not stopped.

## **KRAX005E: Unable to open XML definition file:<\$ITMHOME\XXX\<pc>\<pc>\_cnfglist.xml>, reason: No such file or directory.**

### **Explanation**

The Centralized Configuration load list XML file was not found or XML parsing errors occurred while processing this file.

### **User response**

1. Message can be ignored if Centralized Configuration functionality is not used.
2. Confirm the location of the Configuration load list XML file. Agent RAS1 log contains the name and location of Configuration load list XML file in the following message:
  - On distributed: \*INFO: Local Configuration Load file name <\$ITMHOME\XXX\  
\<pc>\<pc>\_cnfglist.xml>
  - On z/OS: \*INFO: Local Configuration Load file name <MQCFGLST.RKANDATV>
3. Check the agent operator's log and agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing parsing error.

## **KRAX005I: Unable to open XML definition file:<\$ITMHOME\XXX\<pc>\<pc>\_cnfglist.xml>, reason: No such file or directory.**

### **Explanation**

The centralized configuration load list XML file was not found or XML parsing errors occurred while processing this file.

## User response

1. Message can be ignored if Centralized Configuration functionality is not used.
2. Confirm the location of the Configuration load list XML file. Agent RAS1 log contains the name and location of Configuration load list XML file in the following message:
  - On distributed: \*INFO: Local Configuration Load file name <\${ITMHOME}\XXX\  
\<pc>\<pc>\_confglist.xml>
  - On z/OS: \*INFO: Local Configuration Load file name <MQCFGLST.RKANDATV>
3. Check the agent operator's log and agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing parsing error.

## KRAX014E: Threshold XML override document object name not defined.

### Explanation

Situation threshold override XML file was not found or an XML parsing error occurred while processing this file.

### User response

1. Message can be ignored if situation override functionality is not used.
2. Confirm the location of the threshold override XML file. Agent RAS1 log contains the name and location of the threshold override file in the following message:
  - On distributed: \*INFO: Local threshold override file name  
<\${ITMHOME}\XXX\<<hostname>\_<pc>\_thresholds.xml>
  - On z/OS: \*INFO: Local threshold override file name <MQTHRES.RKANDATV>
3. Check the agent operator's log and agent RAS1 trace log for XML parsing errors. Use KBB\_RAS1=ERROR(UNIT:KRA ALL) trace to determine the line number and XML token causing the parsing error.

## TMS:Engine codes

This appendix contains information you need to interpret IBM® Tivoli® Management Server: Engine (TMS:Engine) messages and logs. This includes the codes for the following:

- [“TMS:Engine abend and snap dump codes” on page 2386](#)
- [“TMS:Engine message route codes” on page 2387](#)
- [“TMS:Engine sense data format” on page 2388](#)

## TMS:Engine abend and snap dump codes

This section describes the TMS:Engine abend codes and snap dump codes.

TMS:Engine can issue the following abend codes:

Code	Description
U0000	After TMS:Engine termination is requested and confirmed, a program timer is set limiting the shutdown time to 30 seconds. If the timer expires, user abend 0 is invoked to purge TMS:Engine from the system. The unexpected halt of a component usually causes. If the problem persists, contact IBM® Software Support.
U0004	The TMS:Engine load library cannot be opened during initialization. This is usually the result of an invalid RKANMODL DD statement in the TMS:Engine JCL procedure. There should also be z/OS® messages in the JES sysout log indicating a specific reason why the library could not be opened. Use this information to correct the error and restart TMS:Engine.

Code	Description
U0008	During start-up, TMS:Engine detected an exception condition. While trying to issue a WTO indicating the source of the error, the integrity of the TMS:Engine address was found to be corrupted. Contact IBM® Software Support.
U0012	During start-up, TMS:Engine detected an exception condition. A message indicating the source of the error is written to the TMS:Engine log. Refer to the error message to determine your course of action.
U0100	This is a run-time abend invoked by the TMS:Engine product to generate dump documentation for a recoverable software failure. The abend is accompanied by a message written to the TMS:Engine log, which explains the reason for the abend. Most of the reasons refer to storage allocation/deallocation errors. After a system dump is taken, the product attempts to recover from this failure automatically. Successful recovery is indicated by the message KLVER011  <div style="border: 1px solid blue; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> You should shut down the TMS:Engine product and restart as soon as possible after receiving this abend code. Although recovery may be successful, the address space may be damaged.</p> </div>
U0200	This is a run-time abend invoked by the TMS:Engine product to generate dump documentation for a non-recoverable software failure. The abend is accompanied by a message written to the TMS:Engine log, which explains the reason for the abend. These abends are generally caused by storage exhaustion or storage overlays and cannot be retried. This abend can also be forced by the SHUTDOWN ABEND operator command. TMS:Engine terminates after a system dump is taken.

TMS:Engine can generate the following snap dumps.

<i>Table 143: TMS:Engine snap dump codes</i>	
Code	Description
10	An abend has occurred in TMS:Engine and the scheduled abend is intercepted by the ESTAE exit routine. All resident TMS:Engine load modules and various TMS:Engine control blocks and tables are dumped. Message KLVER001 is also issued, and gives the reason for the abend.
11	An abend has occurred in TMS:Engine and the scheduled abend is intercepted by the ESTAE exit routine. For each TMS:Engine subtask, the contents of the JPA, control blocks, queue control blocks, error control blocks, data management information, and I/O control areas are dumped. Message KLVER001 is also issued, and gives the reason for the abend.
99	An TMS:Engine application has requested a snap dump. Message KLVER001 is also issued, and identifies who requested the snap.

## TMS:Engine message route codes

This section lists the TMS:Engine message route codes. Messages can be routed to different console groupings. Routing is based on the type coded internally with the message. The routing types are:

<i>Table 144: TMS:Engine message route codes</i>	
Code	Description
ABEND	Abend messages are routed to the system console.
ALERT	Alert messages are routed to all consoles.
ERROR	Error messages are routed to the console that made the request that caused the error.
INFO	Information messages are routed to all consoles.
LOG	Log messages are recorded in the TMS:Engine log data set.
REPLY	Reply messages are routed to the console that made the request.
USER	Reserved.
VIEW	View messages are written to the VIEWLOG cluster.

Code	Description
WARN	Warning messages are routed to all consoles.

Initial defaults are for all consoles to accept ALERT, ERROR, INFO, REPLY, and WARNING messages addressed to the console. The master console receives all ALERT, INFO, and WARNING messages, regardless of the message origin, as well as ERROR and REPLY messages in response to commands issued from the master console.

The defaults for the VIEWLOG cluster are ALERT, ERROR, INFO, VIEW, and WARNING. These can be changed with the AS \*SYSVLG\* MONITOR command.

Defaults for the system log are ALERT, ERROR, INFO, REPLY, and WARNING.

**Note:** Although you can change message routing, you are strongly encouraged to accept the initial defaults.

## TMS:Engine sense data format

This section describes the TMS:Engine sense data format. SNA exception sense codes may appear in some messages. These sense codes have the same meaning as identified in IBM® SNA documentation. Each code consists of a 4-byte fullword field. The first byte is the category, the second the modifier, and the final two bytes are sense code specific information or user-defined data. For more information on interpreting these fields, refer to *IBM® Systems Network Architecture Format and Protocol Reference Manual: Architectural Logic*. The category and modifier bytes hold the sense code defined for the exception condition that occurred. The following categories of messages, as identified by the first two bytes, might display:

**00**

User Sense Data Only

**08**

Request Reject

**10**

Request Error

**20**

State Error

**40**

Request Header (RH) Usage Error

**80**

Path Error

This table lists the TMS:Engine message route codes.

Table 145: TMS:Engine message route codes	
Code	Description
BYTE 0	BIT 0 - REQSTAT origin flag: <ul style="list-style-type: none"> <li>0 if associated with an RPL based request.</li> <li>1 if associated with a NOTIFY request.</li> </ul>
	BIT 1 - Sense data flag <ul style="list-style-type: none"> <li>0 if system sense, or no sense data available.</li> <li>1 if user sense data present.</li> </ul>

Code	Description
	BITS 2-7 - Return code or status information <ul style="list-style-type: none"> <li>• RPL Return code (RPLRTNCD).</li> <li>• NOTIFY Notify status code, currently supported values:               <ul style="list-style-type: none"> <li>◦ x'02' Session established.</li> <li>◦ x'03' Procedure error</li> </ul> </li> </ul>
BYTE 1	Feedback or reason code <ul style="list-style-type: none"> <li>• RPL Feedback code (RPLFDB2).</li> <li>• NOTIFY Reason flags, currently valid only for status x'03'. This field refers to the 10th byte of the Third Party Notification NOTIFY vector.</li> </ul>
BYTES 2-3	Sense data <ul style="list-style-type: none"> <li>• <b>System sense</b> Refers to the RPLSSEI and RPLSSMI fields, respectively.</li> <li>• <b>User sense</b> Refers to the RPLUSNSI field.</li> </ul>

## IBM Tivoli Monitoring product codes

The following table lists the product codes that identify the different IBM Tivoli Monitoring components and agents. Use these codes when running commands.

<i>Table 146: IBM Tivoli Monitoring product codes</i>	
Component	Product code
Active Directory monitoring agent	3z
Alert Adapter for AF/REMOTE®	a2
i5/OS® monitoring agent	a4
System Automation for z/OS	ah
OMEGACENTER Gateway MVS Alert Adapter	am
Tivoli Enterprise Monitoring Automation Server	as
CA-Unicenter Alert Emitter	au
IBM Tivoli Monitoring Shared Libraries	ax
RAS1 programming building blocks	bb
ITCAM System Edition for WebSphere DataPower	bc
CASP Directory Server Monitoring Agent	bl
CASP Exchange Connector Monitoring Agent	br
Basic Services	bs
IBM Tivoli Monitoring for CICS	c3
IBM Z® OMEGAMON® for CICS®	c5
TEMS Configurator	cf <sup>9</sup>
IBM Tivoli Monitoring for Cryptographic Coprocessors	cg
IBM Tivoli Monitoring Product Installer	ci
IBM Tivoli Monitoring SQL Files	cicatrsql
IBM Tivoli Monitoring Product Installer	cienv
Tivoli Enterprise Portal Desktop Client	cj
Command and Control	co

<b>Component</b>	<b>Product code</b>
IBM Tivoli Monitoring for CICS	cp
Tivoli Enterprise Portal Server	cq
ICU globalization support	cu
Tivoli Enterprise Portal Browser Client	cw
IBM Tivoli Monitoring CommandPro	cz
IBM Tivoli Monitoring for Db2	d3
ITCAM for SOA	d4
IBM Z® OMEGAMON® AI for Db2	d5
distributed communications	dc
Distributed Database common code	dd
distributed communications transport protocol	de
OMEGAMON II for SMS	df
Internet http server	dh
IBM Tivoli Decision Support for z/OS	do
IBM Z® OMEGAMON® AI for Db2	dp
granular security on distributed platforms	dq
Tivoli Enterprise Management Server	ds
remote deploy (os agent only)	dy
R/3 Clients (for ETEWatch) Monitoring Agent	e3
Siemens APOGEE Agent	e4
OSIsoft PI Agent	e5
Johnson Controls Metasys Agent	e6
APC InfraStruXure Agent	e7
Eaton Power Xpert Agent	e8
Active Energy Manager Agent	e9
Internet Monitoring Agent	ea
Lotus Notes Clients (for ETEWatch) Monitoring Agent	el
Event manager	em
SNMP Gateway on Windows NT	en
Management Agent for Tivoli Enterprise Console Gateway	er
EIF to WS-Notification Converter	es
End-to-End	et
Custom Clients (for ETEWatch) Monitoring Agent	eu
Web Browsers (for ETEWatch) Monitoring Agent	ew
Monitoring Agent for Microsoft Exchange Server	ex
OMA for eBA Solutions	ez
Tivoli Enterprise Monitoring Server	fa
Monitoring Agent for Tivoli Management Framework	fn
Windows NT Tivoli Enterprise Portal	fw
SNMP Gateway on AIX	ga
IBM Tivoli Monitoring for Domino	gb
general library	gl

<b>Component</b>	<b>Product code</b>
Graphics and Sound Library for TEP	gr
IBM GSKit Security Interface	gs
IBM Z® OMEGAMON® for CICS® TG	gw
HMC Alert Adapter	hc
Warehouse Proxy	hd
HP OpenView IT/Operations Alert Adapter	hi
OMEGAMON z/OS Management Console	hl
HP OpenView NNM Alert Adapter	ho
Monitoring Agent for Web Servers	ht
OMEGAMON II for IMS	i2
OMEGAMON for IMS on z/OS	i5
WebSphere InterChange Server Monitoring Agent	ic
OpenView ITO Alert Emitter	ih
OMEGAMON for IMS on z/OS	ip
IBM Tivoli Composite Application Manager for Internet Service Monitoring	is
TEC GUI Integration	it
IBM HTTP Server	iu
IBM Tivoli Enterprise Portal Server Extensions Update	iv
IBM Tivoli Enterprise Portal Server Extensions	iw
Tivoli Enterprise-supplied JRE	jr
Monitoring Agent for JMX JSR-77	ju
Monitoring Agent for Tivoli Enterprise Console	ka
IBM Eclipse Help Server	kf
ITCAM for Response Time Enabler on z/OS	kt
IBM Tivoli LAP tool	la
Lotus Notes Monitoring Agent	ln
Monitoring Agent for Netcool\OMNIbus Logfiles	lo
ITMS:Engine	lv
POSIX pthread mapping service (CT/Engine)	lx
Monitoring Agent for Linux OS	lz
OMEGAMON II for MVS	m2
IBM Tivoli Monitoring for OS/390	m3
OMEGAMON on z/OS	m5
Remedy ARS Alert Adapter	ma
WebSphere MQ Configuration Agent	mc <sup>9</sup>
PQEdit	md
IBM MQ Monitoring Agent	mq
Tivoli Enterprise Monitoring Server	ms
OMEGAMON for Networks on z/OS	n3
IBM Z® NetView Enterprise Management Agent	na
Monitoring Agent for IBM Z® NetView Server	nd

<b>Component</b>	<b>Product code</b>
Tivoli Omnibus ObjectServer Agent	no
IBM Tivoli Network Manager	np
Monitoring Agent for Windows OS	nt
IBM Z® NetView/AIX Alert Adapter	nv
Novell NetWare Monitoring Agent	nw
Tivoli Enterprise Monitoring Server	o4
OMNIMON BASE	ob
OMEGAMON for z/OS (z/OS UNIX System Services)	oe
OMEGAMON II for Mainframe Network	on
Monitoring Agent for Microsoft SQL Server	oq
Monitoring Agent for Oracle	or
IBM Tivoli Monitoring for Sysplex	os
Informix Monitoring Agent	ox
Monitoring Agent for Sybase Server	oy
Base Monitoring Agent for AIX	p5
ITCAM Agent for PeopleSoft Enterprise Application Domain	p8
ITCAM Agent for PeopleSoft Enterprise Process Scheduler	p9
Performance Analytics for TEP	pa
DEC Polycenter Alert Adapter	pc
Monitoring Agent for Provisioning	pe
Base Monitoring Agent for HMC	ph
Base Monitoring Agent for CEC	pk
CandleLight Workstation	pl
PeopleSoft Monitoring Agent	ps
Peregrine ServiceCenter Alert Adapter	pt
Base Monitoring Agent for VIOS	pv
Premium Monitoring Agent for AIX	px
Monitoring Agent for Microsoft Cluster Server	q5
Microsoft Internet Information Services (IIS) Agent	q7
Monitoring for Microsoft Applications	qa
IBM Tivoli Monitoring for IBM Director	qd
Monitoring Agent for Microsoft .NET Framework	qf
IBM Integration Bus Monitoring Agent	qi
Tivoli Enterprise Monitoring Server	qm
Monitoring Agent for Microsoft Virtual Server	qr
Monitoring Agent for VMware ESX	qv
Monitoring Agent for Citrix Access Suite	qx
Agentless Monitoring for Windows Operating Systems	r2
Agentless Monitoring for AIX Operating Systems	r3
Agentless Monitoring for Linux Operating Systems	r4
Agentless Monitoring for HP-UX Operating Systems	r5
Agentless Monitoring for Solaris Operating Systems	r6

<b>Component</b>	<b>Product code</b>
Business System Manager Common Agent	r9
Agent Operations Log	ra
IBM Tivoli Monitoring for Rational Applications	rc
IBM Tivoli Advanced Audit for DFSMSHsm	rg
IBM Tivoli Allocation Optimizer for z/OS	rj
IBM Tivoli Automated Tape Allocation Manager	rk
IBM Tivoli Advanced Catalog Management for z/OS	rn
IBM Tivoli Advanced Backup and Recovery for z/OS	rv
IBM Tivoli Tape Optimizer	rw
ITCAM Extended Agent for Oracle Database	rz
OS/2 Monitoring Agent	s2
IBM OMEGAMON for Storage on z/OS	s3
Monitoring Agent for mySAP	sa
shared probes	sb
Status Data Manager	sd
Tivoli Enterprise Monitoring SOAP Server	sh
Best Practices for WebSphere	sj
Reporting Agent for Tivoli Storage Manager	sk
SNMP Alert Adapter	sp
IBM Tivoli Service Level Advisor	sr
Windows NT SNA Server Monitoring Agent	ss
Summarization and Pruning Agent	sy
ITCAM File Transfer Enablement	t1
ITCAM for Response Time Tracking TEMA	t2
ITCAM Application Management Console (AMC)	t3
ITCAM for Client Response Time (CRT) Agent	t4
ITCAM for Web Response Time (WRT) Agent	t5
ITCAM for Robotic Response Time (RRT) Agent	t6
ITCAM for MQ Tracking	th
Monitoring Agent for IBM Tivoli Monitoring 5.x Endpoint	tm
Unicenter TNG Alert Emitter	tn
ITCAM Transaction Reporter	to
IBM Z® NetView Alert Emitter	tr
ITCAM Transaction Collector	tu
Tivoli Enterprise Console Alert Adapter	tv
Tuxedo Monitoring Agent	tx
CA-Unicenter Alert Adapter	ua
IBM Tivoli Monitoring for Applications: Siebel Agent	ub
Monitoring Agent for Db2	ud
Tivoli Enterprise Services User Interface Extensions	ue
Universal Agent Framework	uf
Tivoli Enterprise Services User Interface	ui

Component	Product code
Unison Maestro Alert Adapter	uj
Monitoring Agent for UNIX Logs	ul
Universal Agent	um
Unison RoadRunner Alert Adapter	ur
Unicenter TNG Alert Adapter	ut
Monitoring Agent for UNIX OS	ux
Premium Monitoring Agent for VIOS	va
HP OpenView Alert Emitter	vi
OMEGAMON on z/VM and Linux	vl
IBM Tivoli Monitoring for Virtual Servers	vm
Tivoli Enterprise Console Alert Emitter	vt
IBM Z® NetView Agent Support	vw
WebSphere Application Server Monitoring Agent	we
IBM Tivoli Composite Application Manager Common Components	wj
BEA Weblogic Server Monitoring Agent	wl
IBM Tivoli Monitoring for OMEGAVIEW II for the Enterprise	wo
WebSphere Application Server on OS/390	ww
IBM Tivoli Information Management for z/OS	yb
Monitoring Agent for J2EE	yj
Monitoring Agent for WebSphere	yn

## ETE™ return codes and sense codes

This appendix lists the return codes and sense codes for the End-to-End (ETE™) response time monitor component used by some monitoring agents on z/OS®.

### Return codes

“Decimal and hex return codes with meanings for return codes 16 and 20” on page 2394 shows the return code as a decimal value followed by the hexadecimal equivalent. Note that the sense codes apply only to return codes 16 and 20.

Dec	Hex	Meaning
0	00	Request successfully completed.
4	04	ETE™ is not APF-authorized.
8	08	Invalid handle.
12	0C	ETE™ not active.
16	10	Maintenance mismatch. Sense code has first fix number not matching.
20	14	Request failed. Sense code has reason for failure.
24	18	Load of KETTINSN module failed.

<sup>9</sup> IBM has discontinued support for Tivoli OMEGAMON for Messaging for z/OS 7.3.x, which uses product codes CF and MC.

## Sense codes

This section lists the End-to-End sense codes.

### ETE™ address space sense codes

**X'01000E0'**

Insufficient private storage

**X'01000E1'**

Unsupported operating environment

**X'01000E2'**

Recovery not established

### ETE™ capture facility ADD sense codes

**X'018001E0'**

Insufficient private storage

**X'018001E1'**

Unsupported environment

**X'018001E2'**

Recovery not established

**X'018001E3'**

ETE™ is not running

**X'018001E4'**

Unknown category

**X'018001E5'**

CRCA GETMAIN failure

**X'018001E8'**

CUWB lock obtain failure

**X'018001EA'**

RU capture facility is not up

**X'018001EB'**

CRCB build failure

**X'018001EC'**

Collector abended

**X'018001ED'**

VIT PIU trace is inactive

**X'018001EE'**

Abend occurred during request

**X'018001EF'**

Load of KETTCAP stub failed

**X'018001F0'**

LU not found (Index into parm block is 12th bit for 1 byte)

**X'018001F1'**

Control block corruption detected

**X'018001F2'**

CRCB entry length error

## **EXTRACT request errors**

These sense codes are returned by OMEGAMON® messages.

**X'02000C0'**

Insufficient private (NCWA)

**X'02000C1'**

Enqueue failure

**X'02000C2'**

User not monitoring this device

**X'02000C3'**

Dequeue failure

**X'02000C4'**

Control block corruption detected

**X'02000C5'**

Abend occurred during request

**X'02000C6'**

Collector abended

**X'02000C7'**

Unsupported environment

**X'02000C8'**

Recovery not established

**X'02000C9'**

Lock obtain timeout

**X'02000CA'**

VIT PIU trace is inactive

**X'02000CB'**

Extract area specification error

**X'02000CC'**

Extract area page fix error

**X'02000CD'**

SLUL corruption detected during extract request

**X'02000CE'**

SLUL is not active during extract request

**X'02000CF'**

No terminal for extract request

**X'02000D0'**

No partner for extract request

## **ETE™ Capture Facility REMOVE sense codes**

**X'028001C0'**

Insufficient private storage

**X'028001C1'**

Unsupported environment

**X'028001C2'**

Recovery not established

**X'028001C3'**

Collector abended

**X'028001C4'**

VIT PIU trace is inactive

**X'028001C5'**

Abend occurred during request

**X'028001C6'**

ETE™ is not running

**X'028001C7'**

CUWB lock obtain failure

**X'028001C8'**

Unable to locate CUWB

**X'028001C9'**

Subtask terminated

**X'028001CA'**

Subtask did not terminate

**X'028001CB'**

REBF READY Q ENQ failed

**X'028001CC'**

Control block corruption detected

**REFRESH request errors**

These sense codes are returned by OMEGAMON® messages.

**X'040000A0'**

Insufficient private (NCWA)

**X'040000A1'**

Enqueue failure

**X'040000A2'**

User not monitoring this device

**X'040000A3'**

Dequeue failure

**X'040000A4'**

Control block corruption detected

**X'040000A5'**

Abend occurred during request

**X'040000A6'**

Collector abended

**X'040000A7'**

Unsupported environment

**X'040000A8'**

Recovery not established

**X'040000A9'**

Lock obtain timeout

**X'040000AA'**

VIT PIU trace is inactive

**X'040000AB'**

SLUL corruption detected during refresh request

**X'040000AC'**

SLUL is not active during refresh request

**X'040000AD'**

No terminal for refresh request

**X'040000AE'**

No partner for refresh request

## **ETE™ capture facility install API sense codes**

**X'048001A0'**

Insufficient private storage

**X'048001A1'**

Unsupported environment

**X'048001A2'**

Recovery not established

**X'048001A3'**

ETE™ is not running

**X'048001A4'**

CUWB GETMAIN failure

**X'048001A5'**

CRWA GETMAIN failure

**X'048001A7'**

KETTCAP ATTACH failure

**X'048001A8'**

CUWB lock obtain failure

**X'048001A9'**

PSQT overflow

**X'048001AA'**

RU capture facility is not up

**X'048001AB'**

CRCB build failure

**X'048001AC'**

Collector abended

**X'048001AD'**

VIT PIU trace is inactive

**X'048001AE'**

Abend during request

**X'048001AF'**

Load of KETTCAP stub failed

**X'048001B0'**

LU not found (Index into PARM block is at the 12th bit of 1 byte)

**X'048001B1'**

Load of PIU delivery exit failed

## **STATUS request errors**

These sense codes are returned by OMEGAMON® messages.

**X'08000080'**

Insufficient private (NCWA)

**X'08000081'**

Enqueue failure

**X'08000082'**

User not monitoring this device

**X'08000083'**

Dequeue failure

**X'08000084'**

Control block corruption detected

**X'08000085'**

Abend occurred during request

**X'08000086'**

Collector abended

**X'08000087'**

Unsupported environment

**X'08000088'**

Recovery not established

**X'08000089'**

Lock obtain timeout

**X'0800008A'**

VIT PIU trace is inactive

**X'0800008B'**

KETTAPRN call to KETTSTSN failed

**X'0800008C'**

SLUL corruption detected during status request

**X'0800008D'**

SLUL is not active during status request

**X'0800008E'**

No terminal for status request

**X'0800008F'**

No partner for status request

## **ETE™ capture facility sense codes**

**X'08800180'**

Load failure for KETTCAP

**X'08800181'**

GM failure for KETTCAP

**X'08800182'**

Load failure for KETCAPIc API RTR

**X'08800183'**

GM failure for KETCAPIc API RTR

**X'08800184'**

Load failure for KETCAPIc API

**X'08800185'**

GM failure for KETCAPIc API

**X'08800186'**

Load failure for KETTCAP

**X'08800187'**

GM failure for KETTCAP

**X'08800188'**

Load failure for KETEPIDN

**X'08800189'**

GM failure for KETEPIDN

## **DELETE request errors**

These sense codes are returned by OMEGAMON® messages.

**X'10000060'**

Insufficient private (NCWA)

**X'10000061'**

Enqueue failure

**X'10000062'**

User not monitoring this device

**X'10000063'**

Dequeue failure

**X'10000064'**

Control block corruption detected

**X'10000065'**

Abend occurred during request

**X'10000066'**

Collector abended

**X'10000067'**

Unsupported environment

**X'10000068'**

Recovery not established

**X'1000069'**

Lock obtain timeout

**X'100006A'**

VIT PIU trace is inactive

**X'100006B'**

Lock obtain failure

**X'100006C'**

CID not found during CIHT delete processing

**X'100006D'**

ADPB not found

**X'100006E'**

No terminal for delete request

**X'100006F'**

No partner for delete request

## **RASTOP sense codes**

**X'10800160'**

Insufficient private storage

**X'10800161'**

Enqueue failure

**X'10800163'**

VIT PIU trace is inactive

**X'10800164'**

Collector abended

**X'10800165'**

Abend occurred during request

**X'10800166'**

Dequeue failure

**X'10800167'**

ETE™ address space is inactive

**X'10800168'**

XMEM FREEMAIN failed (ADPB)

**X'10800169'**

XMEM services failed

**X'1080016A'**

ADPB lock obtain failure

**X'1080016B'**

Recovery not established

**X'1080016C'**

ADPB not found for token

**X'1080016D'**

PSQE deletion failure

**X'1080016E'**

Lock obtain timeout

**X'1080016F'**

SLUL corruption detected during STOPMON request

**X'10800170'**

SLUL is not active during STOPMON request

## **ADD request errors**

These sense codes are returned by OMEGAMON® messages.

**X'20000040'**

Insufficient private (NCWA)

**X'20000041'**

Enqueue failure X'20000042' This sense code is returned for one of the following reasons:

1. Device luname not found in network (no data provided for VERBOSE WTO)
2. LU is a virtual terminal, but no information is available from the MSM.
3. ETE™ address space is no longer running
4. LU is a switched LU or a 37xx TIC-attached token ring LU that has a status of CONCT

Issue the ETE™ VERBOSE command to produce a WTO to the system console each time this sense code is returned (except for reason 1 above). The WTO specifies which of the above reasons caused the failure.

**X'20000043'**

Device not suitable for monitoring X'20000044' Device does not support SLU-PLU rspi

**X'20000045'**

User already monitoring this device

**X'20000046'**

Insufficient CSA-TDBA

**X'20000047'**

Insufficient CSA-TDBE

**X'20000048'**

Insufficient CSA-PSQE

**X'20000049'**

Dequeue failure

**X'2000004A'**

Control block corruption detected

**X'2000004B'**

Abend occurred during request

**X'2000004C'**

Collector abended

**X'2000004D'**

Unsupported environment

**X'2000004E'**

Recovery not established

**X'2000004F'**

Lock obtain timeout

**X'20000050'**

Partner luname not found in network

**X'20000051'**

VIT PIU trace is inactive

**X'20000052'**

TCRB information is unavailable

**X'20000053'**

ETE™ address space is inactive

**X'20000054'**

Device is in connectable status

**X'20000055'**

Cross memory set up failure

**X'20000056'**

Add failed for LU type 1 or 3 device. (FAILNL2 was specified on the EXEC statement in the ETE™ started task JCL (TKANSAM member CANSET).)

**X'20000057'**

No partner was specified

**X'20000058'**

Lock obtain timeout

**X'20000059'**

CID not found during CIHT add processing

**X'2000005A'**

GETMAIN for additional CIHT failed

**X'2000005B'**

GETMAIN for ADPB failed

**X'2000005C'**

ADPB lock obtain failure

**X'2000005D'**

No terminal for add request

## **ETE™ capture facility QUIESCE sense codes**

**X'20400240'**

Abend occurred during request

**X'20400241'**

Collector abended

**X'20400242'**

VIT PIU trace is inactive

**X'20400243'**

Insufficient private storage

**X'20400244'**

Unsupported environment

**X'20400245'**

Recovery not established

**X'20400246'**

SRB GETMAIN failure

## **RASTRT sense codes**

**X'20800140'**

Insufficient private storage

**X'20800141'**

Enqueue failure

**X'20800143'**

VIT PIU trace is inactive

**X'20800144'**

Collector abended

**X'20800145'**

Abend occurred during request

**X'20800146'**

Dequeue failure

**X'20800147'**

ETE™ address space is inactive

**X'20800148'**

XMEM GETMAIN failed (ADPB)

**X'20800149'**

XMEM services failed

**X'2080014A'**

ADPB lock obtain failure

**X'2080014B'**

Recovery not established

**X'2080014C'**

Parameter specification error

**X'2080014D'**

Lock obtain timeout

**X'2080014E'**

SLUL corruption detected during STARTMON request

**X'2080014F'**

SLUL is not active during STARTMON request

## **REMOVE request errors**

These sense codes are returned by message ETE0050 or ETE0100 with a return code of 16 or 20.

**X'40000020'**

Insufficient private (NCWA)

**X'40000021'**

Enqueue failure

**X'40000022'**

Subsystem deactivation failure

**X'40000023'**

Dequeue failure

**X'4000024'**

Control block corruption detected

**X'4000025'**

Abend occurred during request

**X'4000026'**

Collector abended

**X'4000027'**

Unsupported environment

**X'4000028'**

Recovery not established

**X'4000029'**

Lock obtain timeout

**X'400002A'**

VIT PIU trace is inactive

**X'400002B'**

ETE™ address space is inactive

**X'400002C'**

ADPB deletion failed

## **ETE™ capture facility EXTRACT sense codes**

**X'4040220'**

Insufficient private storage

**X'4040221'**

Unsupported environment

**X'4040222'**

Recovery not established

**X'4040223'**

ETE™ is not running

**X'4040224'**

CUHB validation error

**X'4040225'**

CRWH validation error

**X'4040226'**

Enqueue failure

**X'4040227'**

RUBF validation error

**X'4040228'**

Size error, RUBF kept

**X'4040229'**

Collector abended

**X'404022A'**

VIT PIU trace is inactive

**X'404022B'**

Abend occurred during request

**X'4040022C'**

Queue is null

**X'4040022D'**

Subtask terminated

**X'4040022E'**

Control block corruption detected

**X'4040022F'**

Invalid token

## **CONNECT sense codes**

**X'40800120'**

Insufficient private storage

**X'40800121'**

Enqueue failure

**X'40800122'**

Subsystem activation failure

**X'40800123'**

Insufficient CSA–SSWA

**X'40800124'**

Insufficient CSA–CLWA

**X'40800125'**

Insufficient CSA–SAHT

**X'40800126'**

Load failure–KETTCOL

**X'40800127'**

Insufficient CSA–KETTCOL

**X'40800128'**

Load failure–KETTHKSc

**X'40800129'**

Insufficient CSA–KETTHKSc

**X'4080012A'**

User already installed

**X'4080012B'**

Insufficient CSA–PSQA

**X'4080012C'**

Dequeue failure

**X'4080012D'**

Control block detection detected

**X'4080012E'**

Abend occurred during request

**X'4080012F'**

Collector abended

**X'40800130'**

Unsupported environment

**X'40800131'**

Recovery not established

**X'40800132'**

Lock obtain timeout

**X'40800133'**

VIT PIU trace is inactive

**X'4080013F'**

ETE™ is not active on system

## **INSTALL request errors**

These sense codes are returned by message ETE0090 with a return code of 16 or 20.

**X'80000000'**

Insufficient private (NCWA)

**X'80000001'**

Enqueue failure

**X'80000002'**

Subsystem activation failure

**X'80000003'**

Insufficient CSA–SSWA

**X'80000004'**

Insufficient CSA–CLWA

**X'80000005'**

Insufficient CSA–SAHT

**X'80000006'**

Load failure–KETTCOL

**X'80000007'**

Insufficient CSA–KETTCOL

**X'80000008'**

Load failure–KETHKSc

**X'80000009'**

Insufficient CSA–KETHKSc

**X'8000000A'**

User already installed

**X'8000000B'**

Insufficient CSA–PSQA

**X'8000000C'**

Dequeue failure

**X'8000000D'**

Control block corruption detected

**X'8000000E'**

Abend occurred during request

**X'800000F'**  
Collector abended

**X'8000010'**  
Unsupported environment

**X'8000011'**  
Recovery not established

**X'8000012'**  
Lock obtain timeout

**X'8000013'**  
Insufficient CSA–PSQT

**X'8000014'**  
VIT PIU trace is inactive

**X'8000015'**  
CSA load failed

**X'8000016'**  
No longer in use

**X'8000017'**  
No longer in use

**X'8000018'**  
No longer in use

**X'8000019'**  
No longer in use

**X'800001A'**  
Load failure–RTAPI

**X'800001B'**  
Insufficient CSA–SSUVT

**X'800001C'**  
Insufficient CSA–RTAPI

**X'800001E'**  
ETE™ is not active

**X'800001F'**  
TSC hook environment failure

**X'8000020'**  
Cross-memory environment setup failed

**X'8000021'**  
Unable to obtain SSTB parameter list storage

**X'80xx0022'**  
SSTB install problem (xx indicates the type of problem):

**08**  
Caller is not APF-authorized

**0C**  
Unable to obtain subpool 241 storage

**10**  
Unable to obtain subpool 228 storage

**14**  
Unable to obtain private work storage

**18**  
Caller is an unknown participant

**1C**  
SSTB router module not found

**20**  
SSTB router module load failed

**24**  
SSTB installation failed, possible loop

**28**  
SSTB installation failed, VTAM® inactive

**2C**  
SSTB installation failed, unsupported environment

**X'80xx0023'**

SSTB activation problem (xx indicates the type of problem):

**08**  
Caller is not APF-authorized

**0C**  
Component routine address is invalid

**10**  
SSTB VTAM® interface router was not installed

**14**  
Unable to obtain private work storage

**18**  
Caller is an unknown participant

**24**  
Component installation failed, possible loop

**28**  
Component installation failed, no slot

**X'80xx0024'**

SSTB withdraw problem (xx indicates the type of problem):

**08**  
Caller is not APF-authorized

**0C**  
Component routine address is invalid

**10**  
SSTB VTAM® interface router was not installed

**14**  
Unable to obtain private work storage

**18**  
Caller is an unknown participant

**24**  
Component installation failed, possible loop

28

Component installation failed, no slot

**X'80000025'**

No longer in use

**X'80000026'**

Load failure for KETCAPIc

**X'80000027'**

GETM failure for KETCAPIc in SQA

**X'80000028'**

Load failure for KETCAPRN

**X'80000029'**

GETM failure for KETCAPRN in SQA

**X'8000002A'**

Load failure for KETCAPIc

**X'8000002B'**

GETM failure for KETCAPIc in SQA

**X'8000002C'**

Failed to establish environment at VIT

**X'8000002D'**

Insufficient CSATSHT

**X'8000002E'**

Load failure for KETTTRCN

**X'8000002F'**

GETM failure for KETTTRCN in SQA

## **ETE™ Capture Facility DELETE sense codes**

**X'80400200'**

Insufficient private storage

**X'80400201'**

Unsupported environment

**X'80400202'**

Recovery not established

**X'80400203'**

Collector abended

**X'80400204'**

VIT PIU trace is inactive

**X'80400205'**

Abend occurred during request

**X'80400206'**

ETE™ is not running

**X'80400207'**

CUWB lock obtain failure

**X'80400208'**

Unable to locate CRCA

**X'80400209'**

Subtask terminated

**X'8040020A'**

Subtask did not terminate

**X'8040020B'**

RUBF READY Q ENQ failed

**X'8040020C'**

Control block corruption detected

**X'8040020D'**

Invalid token

## **XTAG sense codes**

**X'80800100'**

Insufficient private storage

**X'80800101'**

Enqueue failure

**X'80800102'**

User not monitoring this device

**X'80800103'**

Dequeue failure

**X'80800104'**

Control block corruption detected

**X'80800105'**

Abend occurred during request

**X'80800106'**

Collector abended

**X'80800107'**

Unsupported environment

**X'80800108'**

Recovery not established

**X'80800109'**

Lock obtain timeout

**X'8080010A'**

VIT PIU trace is inactive

**X'8080010B'**

SLUL corruption detected during XTAG request

**X'8080010C'**

SLUL is not active during XTAG request

**X'8080010D'**

Call to KETTTSN failed

**X'8080010E'**

No terminal for XTAG request

X'8080010F'

No partner for XTAG request

## z/OS® status codes and return codes

This appendix contains explanations for various status codes and return codes used the IBM® Tivoli® Monitoring z/OS® components. These codes are organized by message prefix as follows:

- [“KDCNCnnn message status codes” on page 2412](#)
- [“KSM and KIB return codes” on page 2418](#)
- [“KFA return codes” on page 2421](#)

### KDCNCnnn message status codes

The KDCNCnnn message print status codes for calls to basic services APIs. These explanations for these codes are shown in [“KDCNCnnn message status codes” on page 2412](#).

This table lists the KDCNC message status codes and provides explanations for those codes.

Table 148: KDCNCnnn message status codes		
Enumerated value displayed in the log file	Status code	Explanation
Distribution request status codes		
0	typedef enum SQL1_	SQL1_Success
1		SQL1_BadArgument,
2		SQL1_BadObject
3		SQL1_BusyObject
4		SQL1_Duplicate
5		SQL1_NotThere
6		SQL1_ProtocolError
7		SQL1_Shortage
8		SQL1_SystemError
9		SQL1_UnknownError
10		SQL1_Warning
11		SQL1_Authority
50	SQL1_NoStorage = 50	Requested storage not available
51	SQL1_InvalidObject	Invalid handle
52	SQL1_InvalidError	Invalid error ID
53	SQL1_InvalidErrorLen	Invalid error ID length
54	SQL1_InvalidMessage	Invalid message
55	SQL1_InvalidName	Invalid name
56	SQL1_InvalidNameLen	Invalid name length
57	SQL1_InvalidValue	Invalid value
58	SQL1_InvalidValueLen,	Invalid value length
59	SQL1_ValueTruncated,	Value truncated
60	SQL1_NotAvailable	Requested parameter not available
61	SQL1_EndOfList	No more elements are in the list

Enumerated value displayed in the log file	Status code	Explanation
62	SQL1_EndOfData	No JVAL is avail. to the LOCATOR
63	SQL1_EndOfIndex	No more index filter
64	SQL1_Error	Error
65	SQL1_BadRequest	Bad request detected by probe
66	SQL1_AbandonSubview	Abandon subview
67	SQL1_AbandonRow	Abandon row
68	SQL1_RestartSubview	Restart subview
69	SQL1_RestartRow	Restart row
70	SQL1_MonitorError	Error in monitored system
71	SQL1_AbandonView	Abandon view
72	SQL1_Abend	ABEND
73	SQL1_NullRow	Row with NULLs
74	SQL1_NoView	No view created
75	SQL1_EventError	EVENT error
76	SQL1_DeferSetup	Defer SetupSample until notified
77	SQL1_DeferProcess	Defer ProcessSample
78	SQL1_DeferOpen	Defer Open (TakeSample)
79	SQL1_RecordsNotFound	Record(s) Not Found
80	SQL1_DuplicateKey	Duplicate Key Found
81	SQL1_IOError	Input/Output Error
82	SQL1_FileFull	File Full Error
Data Server interface-related status codes		
100	SQL1_Security	Security check failed
101	SQL1_Inop	CT/DS® inoperative
102	SQL1_InvalidIntfc	Invalid interface handle
103	SQL1_CTDSIDNotFound	CT/DS® ID not found
104	SQL1_InvalidCTDSID	Invalid character(s) in CT/DS® ID
105	SQL1_InvalidPath	Invalid server handle or server not open
106	SQL1_InvalidAPPLID	Invalid character(s) in Application ID
107	SQL1_Incompatible	Requestor is at incompatible release level
108	SQL1_InvalidSocket	Invalid socket address specified
110	SQL1_PathMissingProcess	WJS: 931009: Error in path specification
111	SQL1_PathInvalidProcess	WJS: 931009: Error in path specification
112	SQL1_PathMissingKeyword	WJS: 931009: Error in path specification
113	SQL1_PathInvalidKeyword	WJS: 931009: Error in path specification
114	SQL1_PathMissingDelimiter	WJS: 931009: Error in path specification
115	SQL1_PathInvalid SocketAddress	WJS: 931009: Error in path specification
116	SQL1_PathInvalidServerID	WJS: 931009: Error in path specification
117	SQL1_PathInvalidUserID	WJS: 931009: Error in path specification
118	SQL1_PathInvalid LocalApplID	WJS: 931009: Error in path specification

Enumerated value displayed in the log file	Status code	Explanation
119	SQL1_PathInvalid RemoteApplID	WJS: 931009: Error in path specification
120	SQL1_PathInvalidMode	WJS: 931009: Error in path specification
140	SQL1_NetworkInterfaceError	WJS: 931009: NCS-related CT/DS® abnormal codes
141	SQL1_NetworkError	WJS: 931009: NCS-related CT/DS® abnormal codes
142	SQL1_NetworkClientTimeout	WJS: 931009: NCS-related CT/DS® abnormal codes
143	SQL1_RemoteServerFailure	WJS: 931009: NCS-related CT/DS® abnormal codes
144	SQL1_NotLBRegistered	WJS: 931009: NCS-related CT/DS® abnormal codes
145	SQL1_LocationBrokerError	WJS: 931009: NCS-related CT/DS® abnormal codes
146	SQL1_ConfigFileNoFamily	WJS: 940325: NCS-related CT/DS® abnormal codes
147	SQL1_NCSFailure = 150	NCS-generated stub code abend
148	SQL1_BusyAddress	NCS socket address already in use
149	SQL1_BadPacket	NCS client or server got bad packet
150	SQL1_BindFailure	NCS cannot bind socket to socket addr
151	SQL1_SocketCreateFailed	NCS cannot create a socket
152	SQL1_NoResponse	NCS-defined server does not respond
153	SQL1_NCSIllRegister	NCS interface already registered
154	SQL1_InternalNCSFailure	NCS internal program error
155	SQL1_NoSuchRPCCall	NCS RPC call not defined in interface
156	SQL1_NCSProtocolError	NCS internal protocol error
157	SQL1_MaximumInterfaces	NCS at registered-intereface limit
158	SQL1_MaximumSocekets	NCS server at in-use-socket limit
159	SQL1_BadRPCHandle,	NCS RPC handle not bound to socket
160	SQL1_BadRPCInterface	NCS interface is not defined
161	SQL1_ServerRestarted	NCS server restarted during session
162	SQL1_ServerCrashed	NCS server crashed during client RPC
163	SQL1_NCSInterfaceError	NCS/CTDS interface internal error
164	SQL1_UndefinedNCSError	NCS undocumented return code
165	SQL1_LBNoDBAccess	NCS location broker can't access the database
166	SQL1_LBBusyDB	NCS location broker locked out of the database
167	SQL1_LBInvalidDBFormat	NCS location broker database obsolete format
168	SQL1_LBNotResgistered	No matching entry in location broker database
169	SQL1_LBNoServer	NCS location broker cannot be accessed
170	SQL1_LBUpdateFailure	NCS location broker database update failure
171	SQL1_NoRemoteShutdown	NCS remote server shutdown not allowed
172	SQL1_InvalidNumericName	NCS socket invalid numeric host name
173	SQL1_BufferTooBig	NCS caller's buffer is too large
174	SQL1_BufferTooSmall	NCS caller's buffer is too small
175	SQL1_SocketCreateFailure	NCS cannot create a socket
176	SQL1_SocketConvertFailure	NCS cant convert socket addr to name
177	SQL1_SocketNameNotThere	NCS socket name lookup failed

Enumerated value displayed in the log file	Status code	Explanation
178	SQL1_NoInterfaceConfig	NCS cant get hst interface config list
179	SQL1_NoLocalHostname	NCS cant get the name of local host
180	SQL1_SocketFamilyInvalid	NCS socket family invalid on local hst
181	SQL1_SocketInternalError	NCS socket code internal error
182	SQL1_InvalidSocketName	NCS socket invalid name format
183	SQL1_CleanupOrderError	NCS PFM cleanup handler release out-of-sequence
184	SQL1_NoCleanupHandler	NCS PFM no cleanup handler is pending
185	SQL1_CleanupSet,	NCS PFM cleanup handler established
186	SQL1_CleanupSignaled	NCS PFM pfm_\$cleanup_set used as signal
187	SQL1_InvalidCleanupRecord	NCS PFM caller's cleanup record invalid
188	SQL1_NoCleanupSpace	NCS PFM no storage for cleanup handler
Compiler Services related status codes		
200	SQL1_CompileFailure	CTDS compilation failure
201	SQL1_BadInput	VPM parser encountered bad input
202	SQL1_CatalogError	VPM catalog lookup error
203	SQL1_InputError	VPM parser error
204	SQL1_OutputError	VPM access plan generation error
205	SQL1_FilterError	VPM filter optimization error
206	SQL1_CreateError	VPM object creation error
207	SQL1_NotFound	VPM object not found
208	SQL1_TableError	VPM table object generation error
209	SQL1_ViewError	VPM view/table processing error
210	SQL1_JoinError	VPM join processing error
211	SQL1_DomainError	VPM domain processing error
212	SQL1_IndexError	VPM index processing error
213	SQL1_FunctionError	VPM function processing error
214	SQL1_ColumnError	VPM column processing error
215	SQL1_ParmError	VPM parmD processing error
216	SQL1_InvalidValueSize	Literal value too MAC1_i32_t or too large
217	SQL1_InternalDistReq	Optimize distribution request as an internal request
218	SQL1_InvalidGroupByClause	At least 1 col function required
219	SQL1_RecordModeIncompat	Record mode incompatibility
220	SQL1_FilterElemIDError	Internal Compiler error resolving ID
Request Service-related status codes		
300	SQL1_InvalidReqHdl	Invalid request handle or request not defined to the Virtual Data Manager
301	SQL1_InUse	Object is already in use
302	SQL1_SampleIncomplete	One or more Views have not completed sampling - for asynch. open only
303	SQL1_InvalidNotifyMethod	Notify method specified is invalid
304	SQL1_InvalidAttribute	Invalid Attribute Type specified.

Enumerated value displayed in the log file	Status code	Explanation
305	SQL1_InvalidInterval	Invalid Request Interval specified
306	SQL1_InvalidBoundary	Invalid Request Boundary specified
307	SQL1_InvalidSuppress	Invalid Request Suppress Notify attr
308	SQL1_InvalidAttrCount	Invalid Attribute Count specified
309	SQL1_InvalidAttrValue	Invalid Attribute Value *b kk981119
310	SQL1_InvalidEventAttr	Invalid Request Event attribute
311	SQL1_InvalidCodePage	Invalid Code Page attribute
312	SQL1_InvalidLanguageId	Invalid Language Id. attr. *e kk981119*
SQL Parcer-related status codes		
350	SQL1_InvalidSQLSyntax	Invalid SQL statement or token
351	SQL1_InvalidSymbolLength	SQL Symbol exceeds maximum length
352	SQL1_InternalParserError	Internal Parser Error
353	SQL1_InvalidHexData	Hex Data Invalid or Too Long
Event Services-related status codes		
400	SQL1_InvalidTrigger	Invalid trigger list or trigger list address
401	SQL1_EventServiceError	Internal Error
402	SQL1_EventThreshold	Event threshold occurred b kk981119
403	SQL1_EventSlowdown	Timer re-open next sample
404	SQL1_EventSlowdownClose	Close and Timer re-open next sample
405	SQL1_EventSuppress	Suppress and Timer open next sample e kk981119
VRS-related status codes		
500	SQL1_NoBuffer	
501	SQL1_AlreadyStarted	Row already started
502	SQL1_AlreadyAccepted	Row already accepted
503	SQL1_AlreadyAbandoned	Row already abandoned
504	SQL1_InvalidSubview	Invalid Subview
505	SQL1_InvalidColimnAtt	Invalid Column attribute
506	SQL1_CompileFailed	Compile View failed
507	SQL1_DuplicateSortSeq	Sort sequence number already defined
508	SQL1_AlreadyConfigured	Column already configured for sort
509	SQL1_DuplicateOutput	Output column already defined
510	SQL1_LastBuffer	Last data buffer
511	SQL1_NoSampleAvailable	No Sample Available
512	SQL1_InvalidParm	Invalid input parm
513	SQL1_InternalVRSFailure	Internal error in VRS
514	SQL1_EOD	End of data: the sample has no rows or there are no more rows to be retrieved from this sample
515	SQL1_MaxRowSizeExceeded	Row exceeds rowset buffer size
516	SQL1_EmptyRowsetBuffer	Requester's rowset buffer has no rows
517	SQL1_LimitExceeded	Row limit exceeded TCK980722

Enumerated value displayed in the log file	Status code	Explanation
VWV-related status codes		
600	SQL1_InvalidView	Invalid view or view address
601	SQL1_NoSharedView	Invalid view or view address
602	SQL1_SharedViewFound	Invalid view or view address
603	SQL1_CreateFailed	Invalid view or view address
604	SQL1_InvalidViewName	Invalid view or view address
605	SQL1_SampleInProgress	Invalid view or view address
606	SQL1_SharedBufferFound	Invalid view or view address
607	SQL1_SetupViewFailed	Invalid view or view address
608	SQL1_SetupRequestFailed	Invalid view or view address
609	SQL1_CreateThreadFailed	Invalid view or view address
610	SQL1_InternalVWVFailure	Invalid view or view address
Status codes issued by SIT1		
800	SQL1_OpenError	
801	SQL1_WaitError	
802	SQL1_PostError	
803	SQL1_CreateThreadError	
804	SQL1_DestroyThreadError	
805	SQL1_ResourceError	
806	SQL1_AdvisorError	
807	SQL1_RuleProcessError	
Status codes issued by RUL1		
850	SQL1_AllocateError	
851	SQL1_RequestError	
852	SQL1_AccessPlanError	
853	SQL1_InvalidRuleNode	
854	SQL1_InvalidOperator	
855	SQL1_InvalidPredicate	
856	SQL1_SQLError	
857	SQL1_LoadError	
858	SQL1_BadFunctionName	
859	SQL1_BadPredicateName	
860	SQL1_SQLOpenError	
861	SQL1_ReadError	
862	SQL1_DeltaError	
863	SQL1_PathError	
Status codes issued by an Candle® Technologies Data Server component		
1000	SQL1_NoMemory	Insufficient storage to satisfy request
1001	SQL1_InvalidHandle	Invalid handle
1002	SQL1_SystemFailure	A CT/DS® system failure occurred.

Enumerated value displayed in the log file	Status code	Explanation
1003	SQL1_Unknown	Unknown error.
1004	SQL1_NotSupported	Request not supported in designated environment
1005	SQL1_InvalidUserID	Invalid Logon User ID
1006	SQL1_InvalidPassword,	Invalid Logon Password
1007	SQL1_LogonInfoError	Error attempting to obtain logon information
1008	SQL1_RequestDestroyed	Request destroyed
1009	SQL1_OpenCancelled	Async. open cancelled
1010	SQL1_PasswordExpired	User password expired tck0314
1011	SQL1_PasswordRevoked	User password revoked tck0314
1012	SQL1_InternalError	Internal component error
1013	SQL1_NoEvent	
1014	SQL1_LicenseWarn,	1014 License Management warning. V114
1015	SQL1_NoLicense	1015 No License available. V114
1016	SQL1_CreateReqFailed	Create Request failed - ExecuteTrans.
1017	SQL1_TakeSampleFailed	Take Sample failed - ExecuteTrans
1018	SQL1_AccessRowsetsFailed	AccessRowsets .failed - ExecuteTrans
1019	SQL1_ReleaseRowsetsFailed	ReleaseRowsets.failed - ExecuteTrans
1020	SQL1_DestroyRequestFailed	Destroy Req.failed - ExecuteTrans.
1021	SQL1_LogonFailed	generic logon failed TCK970120
1022	SQL1-NLS1Error	NLS1 component error kk981119

## KSM and KIB return codes

The KSM and KIB messages print status codes for the situation monitor and information base components. The explanations for these codes are shown in “KSM and KIB message status codes” on page 2418

*Table 149: KSM and KIB message status codes*

Enumerated value displayed in the log file	Identifier	Explanation
0	ERR_NOERROR	No Error
1101	ERR_SQL1INIT	SQL1 Init Error
1102	ERR_SQL1OPEN	SQL1 Open Error
1103	ERR_PREPARE	SQL1 Prepare Error
1104	ERR_FETCH	SQL1 Fetch Error
1105	ERR_CLOSE	SQL1 Close Error
1106	ERR_PREPAREDROP	SQL1 Drop Error
1107	ERR_REGTABLE	ibTableList create failure
1108	ERR_TOBJECT	ibTable create failure
1109	ERR_SQL1OBJ	WsSql400 create failure
1110	ERR_SQL1STMT	Sql statement create failure
1111	ERR_IBREQUEST	IBRequest create failure

Enumerated value displayed in the log file	Identifier	Explanation
1112	ERR_NOTABLEFOUND	No tObjectList defined
1113	ERR_REQUESTER	Sql statement create failure
1114	ERR_REQUESTDROP	Sql prepare error
1115	ERR_SQL1CLOSE	Sql close error
1116	ERR_RWITERATOR	RW Iterator create failure
1117	ERR_RWKEYCREATE	RW key create failure
1118	ERR_RWDICTCREATE	RW Dictionary create failure
1119	ERR_NODATAFOUND	No data returned.
1120	ERR_TYPEERR	No column found in index
1121	ERR_DELETEERR	Delete error
1122	ERR_TABLENAMETAG	Allocate table name tag failure
1123	ERR_IDTAG	Allocate id tag failure
1124	ERR_SORTDATAROW	Allocate sort data failure
1125	ERR_LISTCREATE	Create list error
1126	ERR_XTABLETOOBJ	Table-object xref create error
1127	ERR_BADSLISTARG	Null sList provided
1128	ERR_SLISTITERR	Iterator create erro
1129	ERR_XATTRERROR	Attribute table error
1130	ERR_ITEMPTY	No sList in sList #define
1131	ERR_LODGEERROR	Bad lodge request #define
1132	ERR_NOTABLEARG	No IBTable argument provided
1133	ERR_NOATTRIBUTE	No attribute found
1134	ERR_NOCONFIG	No configuration file found
1135	ERR_DATAROW	Data row create failure
1136	ERR_NODATA	No data back from fetching
1137	ERR_THRESHERROR	Setting up toThreshold table
1138	ERR_NOKEYFOUND	No data from key
1139	ERR_NEWKEYALLOCATE	New key allocation failure
1140	ERR_NOTABLEDEF	No table definition found
1141	ERR_NOKEYNAME	No key object name found
1142	ERR_USERID	No user id
1143	ERR_USERPASSWORD	No password id
1144	ERR_DUPLICATEINSERT	Duplicate record exists
1145	ERR_INVALIDSITNAME	invalid *stiname supplied
1146	ERR_PORTID	No port id
1147	ERR_SLINKEDCREATE	Slist create error
1148	ERR_NULLSLIST	Null sList discovered
1149	ERR_NULLDEF	Null tableDef discovered
1150	ERR_CACHEONLY	Getting an absent cache only
1151	ERR_NONDXFOUND	illegal key index
1152	ERR_BADSQLVAR	Null SQL var

Enumerated value displayed in the log file	Identifier	Explanation
1153	ERR_BADSQLDATA	Null SQL data in var
1154	ERR_NULLTOBJECT	empty Tobject found
1155	ERR_NEWCHARALLOCATE	New char allocation failure
1156	ERR_INVALIDUPDATE	Overwrite of missing record
1157	ERR_CREATEREQUEST	Create request failed
1158	ERR_CREATEREQUEST2	Create request no two
1159	ERR_INPUTSQLDA	get input SQLDA failed
1160	ERR_OUTPUTSQLDA	get output SQLDA failed
1161	ERR_NEWREPLYSTORE	new replystore failure
1162	ERR_NULLINFO	null requestorinfo
1163	ERR_NONOTIFICATION	Bad notification
1164	ERR_ROWDICTIONARY	Error making rowDic
1165	ERR_XREFDATAFOUND	X Reference data is found
1166	ERR_EMPTYKEYS	No keys in dictionary
1167	ERR_ENTERPRISESCOPE	Scope of data error
1168	ERR_LODGERECURSION	more then 10 situations
1169	ERR_MISSINGOBJECTID	Missing object id
1170	ERR_UNKNOWNSQLTYPE	Unknown SQL type
1171	ERR_UNSUPPORTEDSQLTYPE	Unsupported SQL type
1172	ERR_BADKEYDEF	ATOMIC/SUPER key problem
1173	ERR_BADPREDICATE	bad STR predicate @00
1174	ERR_CURRENTEVENT	situation with event-attr @01
1175	ERR_NOCANCEL	Cancel no matches
1176	ERR_TERMINATEREQUEST //	Terminate request issued
1177	ERR_SQLTOKEN	
1178	ERR_SITUATIONOVERFLOW	Situation overflow
1179	ERR_SYNCMATCH	Put parms mismatch
1180	ERR_CHARCREATE	char create error
1200	ERR_UNEXPECTEDAND	Unexpected *AND
1201	ERR_UNEXPECTEDOR	Unexpected *OR
1202	ERR_RULESYNTAX	Generic rule syntax error
1203	ERR_MISMATCHEDPAREN	Parenthesis do not match
1204	ERR_BADCOMPARISONOP	Bad comparison operator
1205	ERR_TOOMANYSUBRULES	# of subrules exceeds limit
1206	ERR_WAYTOOMANYRULES	# of embedded sit exceeds limit
1207	ERR_NETRULE	Bad network rule syntax
1208	ERR_INVALID4REFLEX	Rule too complex for reflex
5000	RELODGE_STATE	Relodge state pseudo error.
1	FORCE_CANCEL_STATE	Force reply store to cancel

## KFA return codes

The KFAyynnn messages print status codes the framework agent component. The explanations for these codes are shown in [“KFAyynnn message status codes” on page 2421](#)

<i>Table 150: KFAyynnn message status codes</i>	
<b>Enumerated value displayed in the log file</b>	<b>Explanation</b>
1500	KO4PRB1_ACCESSLISTOPENERROR
1501	KO4PRB1_ACCESSLISTBROWSEERROR
1502	KO4PRB1_ACCESSLISTREADERROR
1503	KO4PRB1_ACCLISTENTRYNOTFOUND
1504	KO4PRB1_ACCLISTENTRYDELETESTATUS
1505	KO4PRB1_ACCLISTINDEXWRITEERROR
1506	KO4PRB1_ACCLISTINDEXREADERROR
1507	KO4PRB1_ACCLISTINDEXDELETEERROR
1508	KO4PRB1_COPYOBJALLOCERROR
1509	KO4PRB1_COPYOBJCOPYFERROR
1510	KO4PRB1_COPYOBJDUPLICATE
1511	KO4PRB1_COPYOBJINPUTOPENERROR
1512	KO4PRB1_COPYOBJOUTPUTOPENERROR
1513	KO4PRB1_COPYOBJREADERROR
1514	KO4PRB1_COPYOBJWRITEERROR
1515	KO4PRB1_ENTRYEXISTS
1516	KO4PRB1_IBLOGOPENERROR
1517	KO4PRB1_INDEXDELETEERROR
1518	KO4PRB1_INDEXNOTFOUND
1519	KO4PRB1_INDEXREADERROR
1520	KO4PRB1_INDEXWRITEERROR
1521	KO4PRB1_LOGFILEDELETEERROR
1522	KO4PRB1_LOGFILEREADERROR
1523	KO4PRB1_LOGFILEWRITEERROR
1524	KO4PRB1_LOGROPENERROR
1525	KO4PRB1_NOIBFILENAME
1526	KO4PRB1_NODECHANGE
1527	KO4PRB1_NODELISTBROWSEERROR
1528	KO4PRB1_NODELISTDELETEERROR
1529	KO4PRB1_NODELISTLOOP
1530	KO4PRB1_NODELISTOPENERROR
1531	KO4PRB1_NODELISTREADERROR
1532	KO4PRB1_NODENAMENOTFOUND
1533	KO4PRB1_NOLIBRARYPARMA
1534	KO4PRB1_PARMAERROR
1535	KO4PRB1_STATUSENTRYNOTFOUND

Enumerated value displayed in the log file	Explanation
1536	KO4PRB1_INDEXCREATEERROR
1537	KO4PRB1_NODELISTUPDATEERROR
1538	KO4PRB1_NODEFERREDONLINES
1539	KO4PRB1_ONLINE_NODE_DELETE
1540	KO4PRB1_NONLEAF_NODE_DELETE
1541	KO4PRB1_NO_THRUNODE_STATUS
1542	KO4PRB1_NODE_TIMED_OUT
1543	KO4PRB1_NO_PLEX_XCF_AREA
1544	KO4PRB1_LOGFILEFULL
1545	KO4PRB1_LOGFILEUPDATEERROR
1546	KO4PRB1_DUPLICATENODENAME
1547	KO4PRB1_NLSTRANSLATEERROR
1548	KO4PRB1_STALE_NODE_STATUS

## KMS return codes

The KMS messages print status codes related to historical data collection. These explanations for these codes are shown in [“KFAyynnn message status codes” on page 2422](#)

<i>Table 151: KFAyynnn message status codes</i>	
Enumerated value displayed in the log file	Explanation
3000	KMS_HistoryNotCollected
3001	KMS_History_File_IOError
3002	KMS_History_Internal_Error
3003	KMS_History_RemoteProbeNotSupported History view probe not supported
3004	KMS_PX_RemoteProbeNotSupported Requested probe-table not supported

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# Index

---

56, 55, 55, 140, 140, 1061, 1061, 1193, 1186, 1186, 1195, 1195  
163  
    command line options 1190  
    settings 1190  
    signature verification 1190  
aliasing 139  
APARs 1065  
architecture 1061  
archived data group name 1200  
archived data, accessing 1199  
**archived historical data**  
    restoring 1199  
automatic maintenance 1196  
backup data sets, naming 1200  
cache 1194  
changing security system 543  
client, defined 55, 1186  
command interface 1210  
commands 1210  
communication protocols 140  
completing the configuration 522, 523, 523, 523  
components 54  
**components**  
    KPDARCH 1209  
    KPDDSCO 1209  
    KPDMANE 1209  
    KPDREST 1209  
    KPDUTIL 1209  
    KPDXTRA 1209  
concepts 1061  
configuration 139, 1065  
configure using PARMGEN 457  
connecting archived data sets 1200  
console 1194  
controlling maintenance 1197  
customer 1064  
data record format 1202  
data set backup 1198  
defined 55, 138  
demo mode 573  
disconnecting archived data sets 1201  
distributed components 54  
downloading 1187  
enable historical data collection 576  
enabling 1076  
encryption 1239  
export data sets, naming 1198  
exporting data 1201  
extracting data to EBCDIC files 1207  
extracting data to flat files 1206  
global table 139  
group 1064  
high-availability hub 134  
**hub**  
    defined 55, 131  
    high-availability 134  
    location 131  
hub list 139  
in firewall environments 138  
installation 1065  
installing 1189, 1186, 1187, 1187, 1190  
JNLP 1190, 1193  
logon profiles 567  
maintaining 156  
mode 1074, 1076, 1077  
name 134  
node ID 536, 537  
operation 1209  
overview 54, 1061, 1061, 1186, 1186, 1196  
packaging 67  
PDS V2 1222  
placement of hub 131, 131  
placement of remote 131, 133  
platform decision 131  
portable version 1190  
power user 1062, 1064  
prerequisites 1186  
registry settings 1191  
**remote**  
    location 131, 133  
required software 67  
requirements 138  
restoring data 1202  
SAF application ID 574  
security 139  
**security**  
    CA-ACF2 541  
    CA-TOP SECRET 541  
    changing 543  
    NAM 542  
    RACF 540  
    requirements 539  
    setup 539  
    supported packages 539  
sessions 139  
settings 1191, 1187  
setup program 1189, 1187  
silent installation option 1189  
started task 541  
super user 1062, 1064  
supported security packages 539

TEMS name [134](#), [536](#), [537](#)  
tenant user [1062](#), [1064](#)  
terminology [139](#)  
troubleshooting [1078](#), [1078](#), [1079](#), [1194](#)  
usage scenarios [1190](#)  
user [1062](#), [1064](#)  
user access [139](#)  
user access list [139](#)  
user ID for running procedures [1196](#)  
verifying the configuration [557](#)  
VIPA name [147](#)  
workspaces [1077](#)

## \$

\$GBL\$USR profile [415](#)  
\$JOB CARD member [1250](#)  
\$PARSE extracted variables [1245](#)  
\$PARSE jobs [844](#)  
\$PARSEDV job [1246](#)  
\$PARSESV job [1246](#)  
\$REPORT sysout data set [275](#)  
\$SYSVAR1 member [1246](#)  
\$VALRPT sysout data set [275](#)

## %

%GBL\_USER\_JCL%(%RTE\_NAME%) [415](#)  
%GBL\_USR\_JCL% [415](#)  
%SYSJOBNAME% [1250](#)  
%SYSTEMMEMBER% [1250](#)

## &

&bsz variable [1201](#)  
&expdsn variable [1201](#)  
&pdsn variable [1201](#)  
&rhilev variable [1201](#)  
&sct variable [1201](#)  
&ssz variable [1201](#)  
&unit2 variable [1201](#)  
&varname [1054](#)

## 3

3270 OMEGAMON interface [160](#)  
3270 user interface data retrieval agent (KOBAGENT) [896](#),  
[1006](#)

## <

<ALIASEND> tag [1024](#)  
<WORKSPACE> tag [1024](#)  
<WORKSPACEEND> tag [1024](#)

## A

accessibility features for this product [1060](#)

ACF2 macro library field [1312](#)

action codes [915](#)  
ACTION keyword [1031](#)  
action options [238](#)  
ACTIONBAR stanza [980](#)

## Actions

CREATE [239](#)  
DELETE [258](#), [260](#)  
DEPLOY [268](#)  
DISCOVER [242](#)  
GENERATE [248](#), [251](#)  
PACKAGE [265](#)

actions to run [237](#)

## ADD request

sense codes [2402](#)

ADDFILE command [1211](#)

## address space

sense codes [2395](#)

## address translation

broker partitions [149](#)  
enabling [148](#)  
external address [149](#)  
internal address [149](#)

Address translation field [1395](#)

## Administration

Hub connectivity administration [973](#)  
profiles [973](#)  
RTE viewing [973](#)  
Workspace source viewing [973](#)

## administrative workspaces

browsing workspaces [945](#)  
cloning a profile [977](#)  
cloning a workspace [943](#)  
cloning thresholds [964](#)  
profile viewing and cloning [977](#)  
thresholdviewing and cloning [963](#)  
user profile customization [937](#)  
viewing workspace source [975](#)  
workspace viewing and cloning [943](#)

## Administrative workspaces

hub connectivity [981](#)

## advanced agent configuration values

monitoring agent  
K\_AGT\_ICU\_LANGUAGE\_LOCALE [1267](#)  
K\_AGT\_WTO\_MSG [1282](#)

Agent PPI sender field [1271](#)

Agent started task field [1272](#)

Agent to TEMS connection field [1280](#)

Alias name field [1386](#)

ALIASCOMMANDS tag [1024](#)

Alignment field [1204](#)

all known hubs workspace [992](#)

Allocation MGMTCLAS field [1343](#)

Allocation STORCLAS field [1343](#)

Allocation unit field [1343](#)

Allocation volume field [1343](#)

- APARs [1065](#)
- APF-authorization**
  - enable [453](#)
- APF-authorizing the load libraries [104](#)
- Application field [1204](#)
- application ID [574](#)
- application support [557](#), [1014](#)
- application support**
  - prerequisites [527](#)
- application support, installing**
  - catalog and attribute files [526](#)
  - seed data [526](#)
  - SQL files [526](#)
- Applid prefix field [1281](#), [1362](#), [1419](#)
- architecture [1148](#)
- archived historical data**
  - accessing [1199](#)
  - connecting [1200](#)
  - disconnecting [1201](#)
  - name of group [1200](#)
- AUDIT\_SMF environment variable [141](#)
- AUDIT\_TRACE environment variable [141](#)
- auditing [134](#)
- auditing function [140](#)
- auditing function**
  - tracing levels for [141](#)
- authentication**
  - 3270 OMEGAMON interface [160](#)
  - LDAP registry [159](#)
  - local registry [159](#)
  - menu interface [160](#)
  - passwords [159](#)
  - Service Console users [161](#)
  - SOAP server users [161](#)
  - users [159](#)
- authority required [220](#)
- authorization**
  - users [159](#)
  - well-known port [149](#)
- auto update [922](#)
- autonomous agents [146](#)
- autonomous agents**
  - description [173](#)
  - requirements [173](#)
- AUTOSELECT keyword [1032](#)

## B

- backing up environments [194](#)
- BACKUP command [1209](#), [1211](#)
- Backup field [1340](#)
- baroc files [462](#)
- base libraries [123](#)
- basic authentication [1082](#)
- Basic concept of product [215](#)
- Basic System Services (BSS1) [1219](#)
- batch interface [236](#)

- batch jobs [416](#)
- batch parameters**
  - K\_AGT\_AUDIT\_ITM\_DOMAIN [1262](#)
  - K\_AGT\_AUDIT\_MAX\_HIST [1262](#)
  - K\_AGT\_AUDIT\_TRACE [1263](#)
  - K\_AGT\_CONFIG [1264](#)
  - K\_AGT\_FLUSH\_INT\_HR [1265](#)
  - K\_AGT\_FLUSH\_INT\_MIN [1266](#)
  - K\_AGT\_ICU\_LANG [1267](#)
  - K\_AGT\_KGL\_WTO [1268](#)
  - K\_AGT\_KLX\_TCP\_RECYCLE [1269](#)
  - K\_AGT\_PIPE\_NAME [1270](#)
  - K\_AGT\_PPI\_RECEIVER [1271](#)
  - K\_AGT\_PPI\_SENDER [1271](#)
  - K\_AGT\_STC [1272](#)
  - K\_AGT\_STOR\_DTL\_INT\_HR [1273](#)
  - K\_AGT\_STOR\_DTL\_INT\_MIN [1274](#)
  - K\_AGT\_STOR\_MIN\_EXT [1274](#)
  - K\_AGT\_TCP\_STC [1276](#)
  - K\_AGT\_TEMA\_SDA [1277](#)
  - K\_AGT\_TEMS\_NAME\_NODEID [1277](#)
  - K\_AGT\_VIPA [1278](#)
  - K\_AGT\_VTM\_APPL\_AA [1279](#)
  - K\_AGT\_VTM\_APPL\_NCS [1280](#)
  - K\_AGT\_VTM\_APPL\_OPR [1280](#)
  - K\_AGT\_VTM\_APPL\_PREF [1281](#)
  - K\_AGT\_VTM\_APPL\_VPO [1279](#)
  - K\_AGT\_VTM\_NODE [1282](#)
  - K\_AGT\_WTO\_MSG [1282](#)
  - K\_CMS\_LOCAL\_CONNECT [1292](#)
  - K\_CMS\_VTM\_APPL\_LLB [1297](#)
  - K\_CMS\_VTM\_LU62\_LOG [1297](#)
  - K\_CMS\_VTM\_LU62\_LOGTAB [1298](#)
  - K\_CMS\_VTM\_NETID [1298](#)
  - K\_CMSB\_VTM\_APPL\_LLB [1291](#)
  - K\_CMSB\_VTM\_LU62\_LOG [1291](#)
  - K\_CMSB\_VTM\_NETID [1292](#)
  - K\_ICS\_DATASET [1323](#)
  - K\_MQS\_AUTHLIB [1328](#)
  - K\_MQS\_LANGLIB [1327](#)
  - K\_PD\_CYL [1285](#)
  - K\_TCP\_DATA [1327](#)
  - K\_USS\_EXEC [1324](#)
  - KD2\_OMPE\_DB2EXIT [1318](#)
  - KD2\_OMPE\_DB2LOADLIB\_V [1318](#)
  - KD2\_OMPE\_DB2RUNLIB\_V [1319](#)
  - KDF\_HSM\_LOG\_DSN [1322](#)
  - KDO\_DB2\_LOADLIB [1319](#)
  - KDS\_AUDIT\_ITM\_DOMAIN [1372](#)
  - KDS\_AUDIT\_MAX\_HIST [1373](#)
  - KDS\_AUDIT\_TRACE [1373](#)
  - KDS\_CMS\_COMM\_XLAT [1395](#)
  - KDS\_CMS\_CTSOAP [1408](#)
  - KDS\_CMS{EIF} [1399](#)

KDS\_CMS{EIF\_BFR\_EVT\_MAX 1397  
 KDS\_CMS{EIF\_DISABLE\_EMT 1398  
 KDS\_CMS{EIF\_EVT\_LISTENER 1398  
 KDS\_CMS{EIF\_FLT\_MODE 1429  
 KDS\_CMS{EIF\_PORT 1400  
 KDS\_CMS{EXT\_LIM 1410  
 KDS\_CMS{FLUSH\_INT\_HR 1400  
 KDS\_CMS{FLUSH\_INT\_MIN 1401  
 KDS\_CMS{HA\_EXCL\_LIST 1401  
 KDS\_CMS{ICU\_LANG 1403  
 KDS\_CMS{KDC\_DEBUG 1404  
 KDS\_CMS{KGL\_WTO 1405  
 KDS\_CMS{KLX\_TCP\_RECYCLE 1406  
 KDS\_CMS{PART\_NAME 1406  
 KDS\_CMS{SEC\_ENC\_KEY 1407  
 KDS\_CMS{STC 1408  
 KDS\_CMS{STOR\_DTL\_INT\_HR 1408  
 KDS\_CMS{STOR\_DTL\_INT\_MIN 1409  
 KDS\_CMS{STOR\_DTL\_LOG 1409  
 KDS\_CMS{STOR\_MIN\_EXT 1411  
 KDS\_CMS{TCP\_STC 1416  
 KDS\_CMS{TCP\_UDP6\_PORT 1417  
 KDS\_CMS{VTM\_APPL\_DS 1418  
 KDS\_CMS{VTM\_APPL\_GLB 1418  
 KDS\_CMS{VTM\_APPL\_LLB 1419  
 KDS\_CMS{VTM\_APPL\_PREF 1419  
 KDS\_CMS{VTM\_LOADLIB 1325  
 KDS\_CMS{VTM\_LU62\_LOG 1419  
 KDS\_CMS{VTM\_LU62\_LOGTAB 1420  
 KDS\_CMS{VTM\_MACLIB 1324  
 KDS\_CMS{VTM\_NETID 1420  
 KDS\_CMS{VTM\_NODE 1420  
 KDS\_HFS{JAVA\_DIR 1328  
 KDS\_HUB{GLB\_APPL 1377  
 KDS\_HUB{HA\_TYP 1377  
 KDS\_HUB{VTM\_NETID 1378  
 KDS\_KMS{SDA 1378  
 KDS\_MIG{TAPE\_HILEV 1380  
 KDS\_MIG{TAPE\_UNIT 1380  
 KDS\_MIG{TAPE\_VOL 1381  
 KDS\_MIG{VSAM\_HILEV 1381  
 KDS\_PA 1381  
 KDS\_PA{ADDR 1382  
 KDS\_PA{NAME 1382  
 KDS\_PA{ROW 1383  
 KDS\_PD{CYL 1383  
 KDS\_PH 1385  
 KDS\_PH{CMS\_ALIAS\_NAME 1386  
 KDS\_PH{CMS\_COMM\_PRO1 1387  
 KDS\_PH{CMS\_KSH\_SECURE 1387  
 KDS\_PH{CMS\_RTE 1387  
 KDS\_PH{CMS\_SYSV 1388  
 KDS\_PH{CMS\_TCP\_PORT 1388  
 KDS\_PH{CMS\_USER\_QUERY 1389  
 KDS\_PH{CMS\_USER\_UPDATE 1389  
 KDS\_PH{CMS\_VTM\_APPL\_GLB 1390  
 KDS\_PH{CMS\_VTM\_LU62\_LOG 1390  
 KDS\_PH{CMS\_VTM\_NETID 1390  
 KDS\_PH{ROW 1386  
 KDS\_PPI{RECEIVER 1391  
 KDS\_PPI{SENDER 1391  
 KDS\_PU 1392  
 KDS\_PU{CMS\_USER\_ID 1393  
 KDS\_PU{CMS\_USER\_QUERY 1393  
 KDS\_PU{CMS\_USER\_UPDATE 1393  
 KDS\_PU{ROW 1392  
 KDS\_TEMA{SDA 1394  
 KDS\_TEMS{DRA\_FLAG 1397  
 KDS\_USS{EXEC 1324  
 KGW{CTG\_DLL\_DSN 1316  
 KI5{ICT\_SCEXLINK 1320  
 KI5{ICT\_SFUNLINK 1320  
 KI5{X\_ICT\_IMS\_CONNECT\_FLAG 1320, 1320  
 KMC{CFG\_MCDB2\_LIB 1319  
 KNA{NETV\_LNKLIB 1321  
 KOB\_SAF{ACTION\_CLASS\_NAME 1441  
 KOB\_SAF{LOGON\_CLASS\_NAME 1442  
 KOB\_SAF{LOGON\_RESOURCE\_PREFIX 1443  
 KOB\_SAF{QUERY\_CLASS\_NAME 1443  
 KOB\_SITST{EXCLUDE\_HUBS 1444  
 KOB\_SITST{HISTORY\_RANGE 1444  
 KOB\_SITST{HISTORY\_SLOTS 1445  
 KOB\_SITST{INCLUDE\_HUBS 1445  
 KOB\_SITST{RECENT\_SLOTS 1446  
 KOB\_SITST{SAMPLE\_MINUTES 1446  
 KOB\_TOM{STC 1437  
 KOB\_TOM{VTAM\_APPL\_LOGON 1438  
 KOB\_TOM{VTAM\_NODE 1439  
 KPP{X\_KDE\_TRANSPORT\_HTTP\_OPTIONS 1309  
 KQI{CEE\_LE370\_LKED 1314  
 KQI{CEE\_LE370\_RUN 1315  
 KQI{CIC\_LOADLIB 1317  
 KQI{MQS\_LOADLIB 1328  
**PARMGEN parameter names**  
     KDS\_TEMS{STORAGE\_MINIMUM\_EXTEND 1411  
     RTE{SYSV\_SYSVAR\_FLAG 1353  
 RTE{BASE\_MIDLEV 1332  
 RTE{CAN\_SS\_IEFSSN\_FMT 1336  
 RTE{CAN\_SS\_STC 1332  
 RTE{CAN\_SS\_WTO 1337  
 RTE{CAN\_SSID 1337  
 RTE{CMS 1355  
 RTE{DEBUG\_SYSOUT 1334  
 RTE{DESC 1334  
 RTE{ETE\_STC 1332  
 RTE{HILEV 1334  
 RTE{JCL\_SUFF 1335

[RTE\\_KCNSTR00\\_XCFGROUP 1338](#)  
[RTE\\_LOAD\\_OPTIMIZE 1338](#)  
[RTE\\_LOAD\\_SHARED\\_LIBS 1339](#)  
[RTE\\_LOG\\_SYSOUT 1339](#)  
[RTE\\_NAME 1340](#)  
[RTE\\_PDS\\_BU 1340](#)  
[RTE\\_PDS\\_CNT 1288](#)  
[RTE\\_PDS\\_EXP 1341](#)  
[RTE\\_PDS\\_EXT 1342](#)  
[RTE\\_PDS\\_HILEV 1342](#)  
[RTE\\_PDS\\_PROC\\_PREF 1342](#)  
[RTE\\_PDS\\_SMS\\_MGMT\\_CLAS 1343](#)  
[RTE\\_PDS\\_SMS\\_STOR\\_CLAS 1343](#)  
[RTE\\_PDS\\_UNIT 1343](#)  
[RTE\\_PDS\\_VOL 1343](#)  
[RTE\\_PDSE 1350](#)  
[RTE\\_REMOTE 1346](#)  
[RTE\\_SECURITY 1348](#)  
[RTE\\_SMS\\_MGMT\\_CLAS 1350](#)  
[RTE\\_SMS\\_STOR\\_CLAS 1350](#)  
[RTE\\_SMS\\_VSAM\\_MGMT\\_CLAS 1351](#)  
[RTE\\_SMS\\_VSAM\\_STOR\\_CLAS 1351](#)  
[RTE\\_STC\\_PREF 1352, 1372](#)  
[RTE\\_SYS\\_VTAMLST 1325](#)  
[RTE\\_SYSV 1353](#)  
[RTE\\_SYSV\\_BASE\\_ALIAS 1352](#)  
[RTE\\_SYSV\\_NAME 1353](#)  
[RTE\\_SYSV\\_VTM\\_NETID 1354](#)  
[RTE\\_TN3270\\_LUGROUP 1357](#)  
[RTE\\_TN3270\\_TCP\\_HOST 1357](#)  
[RTE\\_TN3270\\_TCP\\_PORT 1357](#)  
[RTE\\_UNIT 1351](#)  
[RTE\\_USERMODS 1359](#)  
[RTE\\_USS\\_RTEDIR 1360](#)  
[RTE\\_VSAM\\_HILEV 1362](#)  
[RTE\\_VTM\\_APPL\\_PREF 1362](#)  
[RTE\\_VTM\\_CANDLE\\_NODE 1362](#)  
[RTE\\_VTM\\_LU62\\_LOG 1363](#)  
[RTE\\_VTM\\_LU62\\_LOGTAB 1363](#)  
[RTE\\_VTM\\_NETID 1363](#)  
[TCP\\_DATA 1327](#)  
**batch processing**  
[KCIOMEGA 274](#)  
[bearer token authentication 1082](#)  
[best practice models 419](#)  
[best practices 122, 145](#)  
[BOXBOTTOM 1032](#)  
[BOXTOP 1032](#)  
[broker partitions 149](#)  
[bss1 command 1219](#)  
[BufEvtMaxSize parameter 1397](#)  
[BufEvtPath parameter 1428](#)  
[Buffer events maximum size field 1397](#)  
[BufferEvents parameter 1427](#)

[Build/Allocation job, KCIJPALO RTE 1246](#)

## C

### CA-ACF2

[KLV@ASM member 541](#)  
[KLVA2NEV member 541](#)  
[MUSASS started task 541](#)  
[setting up security 541](#)

### CA-TOP SECRET

[Facility Matrix Table 541](#)  
[setting up security 541](#)  
[SIGN parameter 541](#)

### capture facility

[sense codes 2400](#)

### capture facility ADD

[sense codes 2395](#)

### capture facility DELETE

[sense codes 2410](#)

### capture facility EXTRACT

[sense codes 2405](#)

### capture facility install API

[sense codes 2398](#)

### capture facility QUIESCE

[sense codes 2403](#)

### capture facility REMOVE

[sense codes 2396](#)

[catalog and attribute files 526](#)

[CBPDO 67](#)

[changing a hub server connection 987](#)

### client

[Enterprise icon 140](#)

[cloned CSI 195, 833](#)

### cloning

[CSI 195, 195](#)

[PARMGEN environment 195](#)

[SMP/E environment 195, 195](#)

[cloning a profile 977](#)

[cloning a workspace 943](#)

[cloning runtime environments 477, 855](#)

[cloning thresholds 964](#)

[closing subpanels 921](#)

[CMS\\_NODEID environment variable 134](#)

[CMS\\_VALIDATE 552](#)

[CNMLINK data set 545](#)

[CNMLINK load library 1321](#)

[CNTRLPT 553](#)

[codepages, language locale 1403](#)

[codes, product 1256](#)

[Col Row Len field 1203](#)

[COLHEADERS 1032](#)

[collapsing subpanels 920](#)

[collection data 1095](#)

[colors, workspace 914, 903, 915](#)

[colors, workspace, Status Tree, situation 923](#)

[Column Count field 1203, 1204](#)

[column description record 1204](#)

[Column Length field 1204](#)

- Column Map field [1206](#)
- Column Name field [1204](#)
- COLUMNS [1032](#)
- COLUMNS132 keyword [1033](#)
- COLUMNS160 keyword [1033](#)
- command [136](#), [136](#)
- command access using SAF profiles [549](#), [549](#), [553](#)
- commands**
  - [1210](#)
  - ADDFILE [1211](#)
  - BACKUP [1211](#)
  - COMMIT [1215](#)
  - DELFILE [1212](#)
  - EXTRACT [1209](#), [1213](#)
  - INITDS [1213](#)
  - QUERY CONNECT [1214](#)
  - QUERY DATASTORE [1215](#), [1242](#)
  - RAS1 [1219](#)
  - RECOVER [1213](#)
  - RESUME [1214](#)
  - service console [1219](#)
  - SWITCH [1209](#), [1210](#), [1243](#)
  - Take Action [916](#)
- commands overview [215](#)
- COMMIT command [1215](#)
- common agent parameters [1261](#), [1309](#)
- Common Event Console [57](#)
- common parameters defined [1257](#)
- communication protocols**
  - [140](#)
  - decisions [147](#)
  - limitations [147](#)
  - piped [147](#)
  - port numbers [150](#)
  - SNA [147](#)
  - TCP/IP [147](#), [147](#), [150](#)
- communications, securing [157](#)
- comparators [919](#)
- Compare field [919](#)
- comparison with legacy PARMGEN [216](#)
- completing the configuration [522](#), [523](#)
- components**
  - codes [1256](#)
  - overview [54](#)
- configuration [1065](#)
- configuration**
  - completing [522](#)
  - decisions [122](#), [122](#)
  - planning [122](#), [122](#)
  - runtime environments [125](#)
  - verifying [557](#)
- configuration flags [278](#), [1259](#)
- configuration for individual OMEGAMON products [556](#)
- configuration interface [414](#)
- configuration parameters [51](#), [51](#), [52](#), [52](#)
- configuration profiles [415](#)
- configuration profiles, customizing [438](#)
- configuration scenarios [612](#)
- configured parameters**
  - storage [1258](#)
- configuring [1137](#)
- configuring support for self-describing agents [134](#)
- CONFIRM parameter [1426](#)
- CONNECT**
  - sense codes [2406](#)
- Connect to TEMS in this RTE field [1292](#)
- console views [57](#)
- context, changing [921](#)
- control points [553](#)
- converting static hub to remote [481](#)
- cookies [2424](#)
- correcting a failed connection [940](#), [984](#), [1006](#), [1009](#)
- Count field [1288](#)
- COUNT option [151](#), [151](#)
- create members and jobs [474](#)
- CREATE action [237](#), [239](#)
- creating custom workspaces [942](#)
- creating interface profiles [976](#)
- creating locale profiles [980](#)
- creating MSLs [1065](#), [1066](#)
- creating runtime environment [222](#)
- CSI**
  - cloned [195](#), [195](#)
  - decisions [122](#)
  - existing [195](#), [195](#)
  - new [204](#)
  - shared [122](#)
- CUASITE profiles [976](#)
- current release levels for Tivoli Management Services components [169](#)
- CURSOR keyword [1028](#)
- CURSORREFRESH keyword [1029](#)
- custom log on profiles [1008](#)
- custom profiles [976](#)
- customer [1064](#)
- customer**
  - defining [1067](#), [1068](#), [1070](#)
- Customization [942](#)
- customize thresholds [942](#)
- customize workspaces [942](#)
- customizing configuration profiles [438](#)
- customizing thresholds [963](#), [967](#)

**D**

- Dashboard Application Services [58](#)
- dashboard applications [58](#)
- data files, application support [526](#)
- Data Length field [1206](#)
- Data Offset field [1206](#)
- data record format, exported historical data [1202](#)

data retrieval agents [1012](#)  
 data retrieval delays [1018](#)  
**data sets**  
   naming convention [124](#)  
 Data Store Path field [1205](#)  
 Data Store Ver field [1205](#)  
 database connection issues [1155](#)  
 Datastore high-level prefix field [1342](#)  
 DDNAME, RKLVLG [1246](#)  
 DDNAME, RKPDI [1246](#)  
 DEBUG parameter [1426](#), [1435](#)  
**decisions**  
   communication protocols [147](#)  
   CSI [122](#)  
   Event Integration Facility (EIF) [140](#)  
   high-availability hub [134](#)  
   historical data collection [154](#)  
   monitoring agents [145](#)  
   placement of monitoring servers [131](#)  
   platform for hub [131](#)  
   runtime environments [123](#)  
   security [157](#)  
   user interface [161](#)  
 default certificate [157](#)  
 default locale profile [980](#)  
 default values [1258](#)  
 defining MSLs [1065](#), [1066](#)  
 defining OMEGAMON subsystem [221](#)  
 definition library for RTE [319](#)  
**definition library for RTE**  
   initial members [322](#)  
   members [320](#)  
   order of members [321](#)  
 DELETE action [237](#), [258](#), [260](#)  
**DELETE request**  
   sense codes [2400](#)  
 DELFILE command [1212](#)  
 DELFILE statement [1201](#)  
 demo mode [573](#)  
 DEPLOY action [268](#)  
 deploying runtime environments [477](#), [855](#)  
**deployment**  
   decisions [122](#), [122](#)  
   planning [122](#), [122](#)  
 Description field [1334](#)  
 Diagnostic SYSOUT class field [1334](#)  
 dictionary header record [1203](#)  
 Dictionary Len field [1203](#)  
 dictionary mappings, historical data [1202](#)  
 Disable Workflow Policy/Emitter Agent event forwarding field [1398](#)  
 DISCOVER action [237](#), [242](#)  
 DISPLAYCOLS keywords [1033](#)  
 displaying the data retrieval agents [999](#)  
 displaying the hub overview status [997](#)  
 displaying the installed products [998](#)  
 displaying the managed system lists [1000](#)  
 displaying the managed system names [1001](#)  
 DISPLAYOPTION keyword [1036](#)  
 documentation changes [1129](#), [1508](#)  
 downloadable PDFs [10](#)  
 DS\_TEMS\_VTAM\_APPL\_LL\_BROKER parameter [1419](#)  
 DSEVT DDNAME [173](#)  
 DSNPROUT sysout data set [275](#)  
 DVIPA [147](#), [134](#)  
  
**E**  
 e3270UI [1005](#)  
 EBCDIC files, exporting to [1206](#)  
**edit macros**  
   IBM-provided [426](#)  
 EGG1 encryption scheme [157](#)  
 embed files [417](#)  
 embed override [337](#)  
 EMBEDS data set [256](#)  
**emulators**  
   mouse click to enter key [1060](#)  
 emulators, supported [899](#)  
 Enable communications trace field [1404](#)  
 Enable startup console messages field [1268](#), [1405](#)  
 Enable storage detail logging field [1409](#)  
 Enable Tivoli Event Integration Facility (EIF) field [1399](#)  
 Enable Web Services SOAP Server field [1408](#)  
 Enable WTO messages field [1282](#)  
 Enable/Disable z/OS audit collection field [1373](#)  
**encryption key**  
   resetting [543](#)  
 encryption, password [280](#)  
 End-to-End Response Time collector [59](#)  
 enhanced 3270 user interface [1437](#)  
**enhanced 3270 user interface**  
   near-term history [894](#)  
   override parameters [1437](#), [1441](#), [1442](#), [1443](#), [1441](#),  
   [1442](#), [1442](#), [1443](#), [1443](#), [1444](#), [1445](#), [1446](#), [1446](#),  
   [1444](#), [1445](#)  
   SAF security class name for [286](#)  
   started task name for [1437](#)  
   Tivoli OMEGAMON Manager [1437](#), [1438](#), [1439](#)  
   VTAM logon APPLID for [1438](#)  
   VTAM node entry for [1439](#)  
 Enhanced 3270 user interface [1012](#), [1061](#)  
 Enhanced 3270 user interface data retrieval agent, KOBAGENT [1006](#)  
 enhanced 3270 user interface messages [1023](#)  
 enhanced 3270UI [1021](#), [1020](#)  
**Enterprise icon**  
   Managed System Lists workspace [140](#)  
**environment variables**  
   CMS\_NODEID [134](#)  
   KDE\_TRANSPORT [151](#), [151](#), [152](#)

- KDEB\_INTERFACELIST [152](#)
- environment variables using SAF profiles [552](#)
- environment variables, defined [1258](#)
- ephemeral pipe support (EPS)**
  - defined [148](#)
  - disabling [148](#)
  - forcing ephemeral connections [149](#)
- Est Cyl Space field [1285](#), [1383](#)
- ETE**
  - messages and codes [1573](#)
  - return codes [2394](#), [2394](#)
  - sense codes [2394](#)
  - sense codes**
    - ADD request [2402](#)
    - capture facility [2395](#), [2396](#), [2398](#), [2400](#), [2403](#), [2405](#), [2410](#)
    - CONNECT [2406](#)
    - DELETE request [2400](#)
    - ETE address space [2395](#)
    - EXTRACT request [2396](#)
    - INSTALL request [2407](#)
    - RASTOP [2401](#)
    - RASTRT [2404](#)
    - REFRESH request [2397](#)
    - REMOVE request [2404](#)
    - STATUS request [2399](#)
    - XTAG [2411](#)
- event**
  - indicators [1150](#)
- Event Forwarder [140](#)
- event forwarding [134](#), [173](#)
- event forwarding**
  - enabling [526](#)
- Event Integration Facility (EIF)**
  - decisions [140](#)
  - requirements [462](#)
  - rule base [462](#)
- event management [134](#)
- Event server location field [1399](#)
- Event server port field [1400](#)
- Event server type field [1398](#)
- event synchronization [57](#)
- EventListenerType parameter [1398](#)
- events**
  - determined by situation name [140](#)
  - forwarding [140](#)
  - integration [140](#)
  - severity [140](#)
  - situation names [140](#)
  - synchronization [140](#)
- EXCLRPT [256](#)
- EXCLRPT sysout data set [275](#)
- exclude list [256](#)
- exits**
  - security [336](#)
- EXPANDCOLAPS keyword [1036](#)
- expanding subpanels [920](#)
- Expansion Area field [1205](#)
- Expansion field [1204](#)
- exploit new features [823](#)
- Export field [1341](#)
- Export Path field [1205](#)
- Export Version field [1205](#)
- exporting historical data [1201](#), [1202](#)
- extended services (TEPS/e) [57](#)
- EXTRACE request**
  - sense codes [2396](#)
- EXTRACT command [1209](#), [1213](#)
- Extract field [1342](#)
- extracting historical data to flat files [1206](#)

**F**

- Facility Matrix Table [541](#)
- fastpath navigation [922](#)
- FILECOMMENTS keyword [1037](#)
- FILEDD keyword [1037](#)
- FILENAME keyword [1037](#)
- FILTERCOLS keyword [1038](#)
- FilterMode parameter [1429](#)
- FILTERNULLVAL keyword [1038](#)
- filters [919](#)
- FILTERSTRIP keyword [1038](#)
- FILTERVIEW keyword [1038](#)
- FILTERVIEWS keyword [1039](#)
- FILTERWHERE keyword [1039](#)
- firewalls**
  - address translation [148](#)
  - basic implementation [148](#)
  - broker partitions [149](#)
  - ephemeral pipe support (EPS) [148](#)
  - gateway support [150](#)
  - piped protocols [147](#)
  - with IP.PIPE protocol [148](#)
  - with SOAP [138](#)
- First Workspace Error [1078](#)
- Flag field [1204](#)
- flat file, extracting historical data to [1206](#)
- Flush VSAM buffers: Hours field [1265](#), [1400](#)
- Flush VSAM buffers: Minutes field [1266](#), [1401](#)
- FMIDs [67](#)
- FOLD [553](#)
- Fold password to uppercase field [287](#)
- FOOTER keyword [1040](#)
- for CICS [1065](#)
- for IMS [1065](#)
- for z/OS [1065](#)
- format, product tapes [67](#)
- formatting tags [1059](#)
- fragmentation, VSAM control area [122](#)
- FRAME parameter [1429](#)

full runtime environments [123](#), [125](#)

## G

gateway, firewall [150](#)

GBL parameters [293](#)

GBL\_DSN\_ACF2\_MACLIB [539](#)

GBL\_DSN\_ACF2\_MACLIBn parameter [1312](#)

GBL\_DSN\_CBC\_SCCNOBJ parameter [1312](#)

GBL\_DSN\_CBC\_SCLBSID parameter [1313](#)

GBL\_DSN\_CEE\_SCEEBIND parameter [1313](#)

GBL\_DSN\_CEE\_SCEEBND2 parameter [1313](#)

GBL\_DSN\_CEE\_SCEECPP parameter [1314](#)

GBL\_DSN\_CEE\_SCEELIB parameter [1314](#)

GBL\_DSN\_CEE\_SCEELKED parameter [1314](#)

GBL\_DSN\_CEE\_SCEELKEX parameter [1315](#)

GBL\_DSN\_CEE\_SCEEMSGP parameter [1315](#)

GBL\_DSN\_CEE\_SCEERUN parameter [1315](#)

GBL\_DSN\_CEE\_SCEESPC parameter [1316](#)

GBL\_DSN\_CICS\_CTG\_DLL parameter [1316](#)

GBL\_DSN\_CICS\_SCTGSID parameter [1316](#)

GBL\_DSN\_CICS\_SDFHC370 parameter [1317](#)

GBL\_DSN\_CICS\_SDFHLOAD parameter [1317](#)

GBL\_DSN\_CSF\_SCSFMODE0 parameter [280](#)

GBL\_DSN\_DB2\_DSNEXT parameter [1318](#)

GBL\_DSN\_DB2\_LOADLIB\_V parameter [1318](#)

GBL\_DSN\_DB2\_RUNLIB\_V parameter [1319](#)

GBL\_DSN\_DB2\_SDSNLOAD parameter [1319](#)

GBL\_DSN\_GLOBAL\_SOURCE\_LIB parameter [1319](#)

GBL\_DSN\_IMS\_RESLIB [281](#)

GBL\_DSN\_IMS\_SCEXLINK parameter [1320](#)

GBL\_DSN\_IMS\_SFUNLINK parameter [1320](#)

GBL\_DSN\_ISP\_SISPLOAD parameter [1320](#)

GBL\_DSN\_NETVIEW\_CNMLINK parameter [1321](#)

GBL\_DSN\_SYS1\_BROADCAST parameter [1321](#)

GBL\_DSN\_SYS1\_CSSLIB parameter [1321](#)

GBL\_DSN\_SYS1\_HSMLOGY parameter [1322](#)

GBL\_DSN\_SYS1\_LINKLIB parameter [1322](#)

GBL\_DSN\_SYS1\_MACLIB parameter [1322](#)

GBL\_DSN\_SYS1\_MODGEN parameter [1323](#)

GBL\_DSN\_SYS1\_PARMLIB parameter [1323](#)

GBL\_DSN\_SYS1\_PROCLIB parameter [1323](#)

GBL\_DSN\_SYS1\_SBLSCLI0 parameter [1324](#)

GBL\_DSN\_SYS1\_SBPXEXEC parameter [1324](#)

GBL\_DSN\_SYS1\_SISTMAC1 parameter [1324](#)

GBL\_DSN\_SYS1\_VTAMLIB parameter [1325](#)

GBL\_DSN\_SYS1\_VTAMLST parameter [1325](#)

GBL\_DSN\_TCP\_ETC\_SERVICES parameter [1325](#)

GBL\_DSN\_TCP\_SEZACMTX parameter [1326](#)

GBL\_DSN\_TCP\_SEZARNT1 parameter [1326](#)

GBL\_DSN\_TCP\_SEZATCP parameter [1326](#)

GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA [452](#)

GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA parameter [1327](#)

GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA\_MFN parameter [1327](#)

GBL\_DSN\_WMQ\_SCSQANLE parameter [1327](#)

GBL\_DSN\_WMQ\_SCSQAUTH parameter [1328](#)

GBL\_DSN\_WMQ\_SCSQLOAD parameter [1328](#)

GBL\_HFS\_JAVA\_DIR parameter [1328](#)

GBL\_INST\_HILEV parameter [1329](#)

GBL\_JOBGEN\_WORKFILE [1329](#)

GBL\_REGION [1329](#)

GBL\_SYSDA\_UNIT [1330](#)

GBL\_TARGET\_HILEV parameter [1330](#)

GBL\_USER\_JCL parameter [1330](#)

GBL\_USER\_JCL(%RTE\_NAME%) [1251](#)

GBL\_USS\_TKANJAR\_PATH parameter [284](#)

GBL\_USS\_TKAYHFS\_PATH [284](#), [284](#)

GBL\_UTIL\_BINDER [294](#), [294](#)

GENERATE action [237](#), [248](#)

**GENERATE action**

location of runtime members [329](#)

GENERATE action options [251](#)

global configuration profile, customizing [438](#)

Global location broker applid of Hub field [1377](#)

Global location broker field [1418](#)

global parameters [293](#), [1312](#)

**global parameters**

GBL\_DSN\_ACF2\_MACLIB [1312](#)

GBL\_DSN\_CSF\_SCSFMODE0 [280](#)

GBL\_DSN\_GLOBAL\_SOURCE\_LIB [1319](#)

GBL\_DSN\_ISP\_SISPLOAD [1320](#)

GBL\_DSN\_NETVIEW\_CNMLINK [1321](#)

GBL\_DSN\_SYS1\_MACLIB [1322](#)

GBL\_DSN\_SYS1\_PARMLIB [1323](#)

GBL\_DSN\_SYS1\_PROCLIB [1323](#)

GBL\_DSN\_SYS1\_SBLSCLI0 [1324](#)

GBL\_DSN\_SYS1\_SISTMAC1 [1324](#)

GBL\_DSN\_SYS1\_VTAMLIB [1325](#)

GBL\_DSN\_SYS1\_VTAMLST [1325](#)

GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA [1327](#)

GBL\_INST\_HILEV [1329](#)

GBL\_TARGET\_HILEV [1330](#)

GBL\_USER\_JCL [1330](#)

GBL\_USS\_TKANJAR\_PATH [284](#)

global profile [415](#)

Global Security Toolkit (GSKit) [157](#)

global table, [139](#)

Grant query access? field [1393](#)

Grant update access? field [1393](#)

granular control of SDA behavior [136](#)

group [1064](#)

**group**

defining [1067](#), [1068](#), [1070](#)

Group field [1205](#)

Group parameter [1201](#)

group-based security [138](#)

guidelines for panel definitions [1028](#)

## H

HEADER keyword [1029](#), [1040](#)

Header Len field [1203](#)

header record [1208](#)

HFS directories [169](#)

HFS/zFS z/OS UNIX directory

update [453](#)

Hierarchical File System/zSeries File System (HFS/zFS) [1360](#)

high availability hub

configuring [622](#)

high-availability hub [134](#)

high-availability hubs [134](#)

High-level Qualifier field [1334](#), [1362](#)

high-level qualifiers

changing [195](#)

installation libraries [1329](#)

length [124](#)

shared CSI [122](#)

SMP/E [195](#)

target libraries [1330](#)

unlocking [195](#)

historical data

accessing [1199](#)

exporting [1201](#)

restoring [1199](#), [1202](#)

historical data collection [456](#)

historical data collection

allocating space [156](#)

decisions [154](#)

defined [154](#)

enable [576](#)

interval [155](#)

limiting amount [155](#)

location [155](#)

managing [156](#)

planning [154](#)

history collection configuration [1095](#)

history collection data [1095](#)

HOME command [923](#)

Hostname field [1357](#)

how-to instructions [481](#), [481](#)

HTTP server port number field [1402](#)

HTTPRQ [888](#)

HTTPS protocol [153](#), [157](#)

hub

decisions [131](#)

defined [55](#), [131](#)

high-availability [134](#)

list [139](#)

platform [131](#)

Hub connectivity administration [973](#)

hub monitoring server

decisions [131](#)

high-availability [458](#)

location [131](#)

remote [458](#)

starting [523](#)

stopping [523](#)

verifying configuration [523](#)

Hub monitoring server [896](#), [1006](#), [1006](#)

hub monitoring server off line [1013](#)

hub monitoring server settings [1008](#)

hub monitoring settings, current [1012](#)

hub monitoring, added [1014](#)

Hub TEMS type field [1377](#)

hub Tivoli Enterprise Monitoring Server [992](#), [940](#), [984](#),

[987](#), [992](#), [989](#), [996](#), [999](#), [998](#), [997](#), [1001](#), [1000](#), [1003](#),

[1002](#), [1004](#), [1006](#), [1009](#)

hub Tivoli Enterprise Monitoring Server

validating [981](#)

Hub Tivoli Enterprise Monitoring Server [896](#), [1006](#), [1006](#)

hub topology [1004](#)

## I

IBM Cognos [58](#), [60](#), [140](#)

IBM Integration Bus [893](#)

IBM Tivoli OMEGAMON enhanced 3270 user interface [158](#), [162](#)

ICSF load library [280](#)

Identifier Num field [1204](#)

IEBGENR utility [1200](#)

IF keyword [969](#)

iKeyMan [157](#)

IKJTSONn member [575](#)

IMBED keyword [1029](#)

INITDS command [1209](#), [1213](#)

initial workspace

KOBSITEC [939](#)

initial workspace, customizing [949](#)

initialization and data request reception [1013](#)

INSTALL request

sense codes [2407](#)

install.sh script [532](#)

installation [1065](#)

installation

checking for fix packs [67](#)

media [67](#)

installing application support

catalog and attribute files [526](#)

seed data [526](#)

SQL files [526](#)

installing new versions into [195](#), [833](#)

INSTDATA data set [195](#)

INSTDATW data set [195](#)

INSTJOBS data set [195](#)

INSTLIB data set [195](#)

INSTLIBW data set [195](#)

INSTLOG data set [195](#)

INSTQLCK data set [195](#)  
 INSTSTAT data set [195](#)  
 Integrated Cryptographic Service Facility (ICSF) [157](#)  
**Integrated Cryptographic Service Facility (ICSF)**  
   resetting encryption key [543](#)  
 integration with other products [60](#)  
 integration, event [140](#)  
**interface**  
   batch [236](#)  
 interface profiles [976](#)  
**interface profiles**  
   creating [976](#)  
**interfaces**  
   **OMEGAMON (3270)**  
     OMEGAMON II (CUA) [164](#)  
 interfaces, network [152](#)  
 Internet Inter-ORB Protocol (IIOP) [157](#)  
 interoperability [60](#)  
 Interoperable Object Reference (IOR) protocol [157](#)  
 IP domain name resolution [1327](#)  
 IP.PIPE field [1264](#), [1395](#)  
 IP.PIPE port number field [1374](#)  
**IP.PIPE protocol**  
   address translation [148](#)  
   ephemeral pipe support (EPS) [148](#)  
   with firewalls [148](#)  
 IP.SPIPE field [1264](#), [1395](#)  
 IP.SPIPE port number field [1375](#)  
 IP.UDP field [1264](#), [1395](#)  
 IP.UDP port number field [1376](#)  
 IP6.PIPE field [1264](#), [1395](#)  
 IP6.PIPE port number field [1374](#)  
 IP6.SPIPE field [1264](#), [1395](#)  
 IP6.SPIPE port number field [1375](#)  
 IP6.UDP field [1264](#), [1395](#)  
 IP6.UDP port number field [1376](#)  
 IPCS system library [1324](#)  
 IPv6 [601](#), [604](#)  
 ISPF variables [1054](#)  
**Issues with**  
   nodeServer.sh [1155](#)  
   plug-ins [1155](#)  
   Zowe login [1155](#)  
 ITM service index [1002](#)  
 ITM service index (HTTPS) [1003](#)

**J**

**jar utility**  
   command failure with [137](#)  
   dearchive failure with [137](#)  
   use with self-describing agents [137](#)

Java Runtime Environment [137](#)  
 Java settings [1191](#)  
 Java Web Start replacement [1186](#), [1186](#)  
 Java z/OS UNIX directory [137](#)  
 Jazz for Service Management integration service [57](#)

JCL library [1330](#)  
 JCL suffix field [1335](#)  
 JCL to run product [236](#)  
 JNLP [1190](#), [1193](#)  
 job, \$PARSESV [1246](#)  
 job, KCIJPALO RTE Build/Allocation [1246](#)  
 jobs, KCIJV\* PARMGEN [1246](#)  
 jobs, naming convention [125](#)  
 joining, workspace, customize [958](#)  
 JOINPREV keyword [1040](#)

**K**

K parameters [1261](#)  
 K\_\*\_STC parameters [1248](#), [1249](#)  
 K\_\*\_VTAM\_APPL\_\* parameters [1247](#)  
 K\_AGT\_AUDIT\_ITM\_DOMAIN batch parameter [1262](#)  
 K\_AGT\_AUDIT\_ITM\_DOMAIN parameter [1262](#)  
 K\_AGT\_AUDIT\_MAX\_HIST batch parameter [1262](#)  
 K\_AGT\_AUDIT\_MAX\_HIST parameter [1262](#)  
 K\_AGT\_AUDIT\_TRACE batch parameter [1263](#)  
 K\_AGT\_AUDIT\_TRACE parameter [1263](#)  
 K\_AGT\_COMM\_PRON batch parameter [1264](#)  
 K\_AGT\_COMM\_PROTOCOLn parameter [1264](#)  
 K\_AGT\_CONFIG batch parameter [1264](#)  
 K\_AGT\_CONFIGURATION\_MODE parameter [1264](#), [1311](#)  
 K\_AGT\_DRA\_FLAG parameter [1266](#)  
 K\_AGT\_FLUSH\_INT\_MIN batch parameter [1266](#)  
 K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR parameter [1265](#)  
 K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN parameter [1266](#)  
 K\_AGT\_ICU\_LANG batch parameter [1267](#)  
 K\_AGT\_ICU\_LANGUAGE\_LOCALE parameter [1267](#)  
 K\_AGT\_KGL\_WTO batch parameter [1268](#)  
 K\_AGT\_KGL\_WTO parameter [1268](#)  
 K\_AGT\_KLX\_TCP\_RECYCLE batch parameter [1269](#)  
 K\_AGT\_KLX\_TCP\_TOLERATERECYCLE parameter [1269](#)  
 K\_AGT\_PARTITION\_NAME parameter [1270](#)  
 K\_AGT\_PIPE\_NAME batch parameter [1270](#)  
 K\_AGT\_PPI\_RECEIVER batch parameter [1271](#)  
 K\_AGT\_PPI\_RECEIVER parameter [1271](#)  
 K\_AGT\_PPI\_SENDER batch parameter [1271](#)  
 K\_AGT\_PPI\_SENDER parameter [1271](#)  
 K\_AGT\_STC batch parameter [1272](#)  
**K\_AGT\_STC parameter**  
   monitoring agent [1272](#)  
 K\_AGT\_STOR\_DTL\_INT\_HR batch parameter [1273](#)  
 K\_AGT\_STOR\_DTL\_INT\_MIN batch parameter [1274](#)  
 K\_AGT\_STOR\_MIN\_EXT batch parameter [1274](#)  
 K\_AGT\_STORAGE\_DETAIL\_INT\_HR parameter [1273](#)  
 K\_AGT\_STORAGE\_DETAIL\_INT\_MIN parameter [1274](#)  
 K\_AGT\_STORAGE\_MINIMUM\_EXTEND parameter [1274](#)  
 K\_AGT\_TCP\_HOST parameter [1275](#)  
 K\_AGT\_TCP\_KDEB\_INTERFACELIST parameter [1275](#)  
 K\_AGT\_TCP\_STC batch parameter [1276](#)  
 K\_AGT\_TCP\_STC parameter [1276](#)

K\_AGT\_TEMA\_SDA batch parameter [1277](#)  
 K\_AGT\_TEMA\_SDA parameter [1277](#)  
 K\_AGT\_TEMS\_NAME\_NODEID batch parameter [1277](#)  
 K\_AGT\_TEMS\_NAME\_NODEID parameter [1277](#)  
 K\_AGT\_VIPA batch parameter [1278](#)  
 K\_AGT\_VIRTUAL\_IP\_ADDRESS parameter [1278](#)  
 K\_AGT\_VTAM\_APPL\_AA parameter [1279](#)  
 K\_AGT\_VTAM\_APPL\_KINVPO parameter [1279](#)  
 K\_AGT\_VTAM\_APPL\_NCS parameter [1280](#)  
 K\_AGT\_VTAM\_APPL\_OPERATOR parameter [1280](#)  
 K\_AGT\_VTAM\_APPL\_PREFIX parameter [1281](#)  
 K\_AGT\_VTAM\_NODE parameter [1282](#)  
 K\_AGT\_VTM\_APPL\_AA batch parameter [1279](#)  
 K\_AGT\_VTM\_APPL\_NCS batch parameter [1280](#)  
 K\_AGT\_VTM\_APPL\_OPR batch parameter [1280](#)  
 K\_AGT\_VTM\_APPL\_PREF batch parameter [1281](#)  
 K\_AGT\_VTM\_APPL\_VPO batch parameter [1279](#)  
 K\_AGT\_VTM\_NODE batch parameter [1282](#)  
**K\_AGT\_WTO\_MSG** parameter  
   monitoring agent [1282](#)  
 K\_AGT\_WTO\_MSGL batch parameter [1282](#)  
 K\_CLASSIC\_SECCLASS parameter [1284](#)  
 K\_CMS\_FLUSH\_INT\_HR batch parameter [1265](#)  
 K\_CMS\_LOCAL\_CONNECT batch parameter [1292](#)  
 K\_CMS\_VTM\_APPL\_LLB batch parameter [1297](#)  
 K\_CMS\_VTM\_LU62\_LOG batch parameter [1297](#)  
 K\_CMS\_VTM\_LU62\_LOGTAB batch parameter [1298](#)  
 K\_CMS\_VTM\_NETID batch parameter [1298](#)  
 K\_CMSB\_VTM\_APPL\_LLB batch parameter [1291](#)  
 K\_CMSB\_VTM\_LU62\_LOG batch parameter [1291](#)  
 K\_CMSB\_VTM\_NETID batch parameter [1292](#)  
 K\_ICS\_DATASET batch parameter [1323](#)  
 K\_MQS\_AUTHLIB batch parameter [1328](#)  
 K\_MQS\_LANGLIB batch parameter [1327](#)  
 K\_PD\_CYL batch parameter [1285](#)  
 K\_PD\_CYL parameter [1285](#)  
 K\_PD\_HISTCOLL\_DATA\_IN\_AGT\_STC parameter [1286](#)  
 K\_PD\_HISTCOLL\_DATA\_IN\_TEMS\_STC parameter [1287](#)  
 K\_PDS2\_ACTIVATION [1288](#)  
 K\_PDS2\_FILE\_COUNT [1288](#)  
 K\_PDS2\_SEC\_SIZE [1289](#), [1384](#)  
 K\_PDS2\_STORE\_SIZE [1289](#)  
 K\_PDS2\_VOLUME [1290](#), [1385](#)  
 K\_TCP\_DATA batch parameter [1327](#)  
 K\_TEMS\_BKUP1\_NAME\_NODEID parameter [1290](#)  
 K\_TEMS\_BKUP1\_TCP\_HOST parameter [1290](#)  
 K\_TEMS\_BKUP1\_VTAM\_APPL\_LLB\_BKR parameter [1291](#)  
 K\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD parameter [1291](#)  
 K\_TEMS\_BKUP1\_VTAM\_NETID parameter [1292](#)  
 K\_TEMS\_LOCAL\_CONNECT\_FLAG parameter [1292](#)  
 K\_TEMS\_NAME\_NODEID parameter [1293](#)  
 K\_TEMS\_TCP\_PIPE6\_PORT\_NUM parameter [1295](#), [1296](#)  
 K\_TEMS\_TCP\_PIPE6S\_PORT\_NUM parameter [1295](#)  
 K\_TEMS\_TCP\_PIPE\_PORT\_NUM parameter [1294](#)  
 K\_TEMS\_TCP\_PIPES\_PORT\_NUM parameter [1295](#)  
 K\_TEMS\_TCP\_UDP\_PORT\_NUM parameter [1296](#)  
 K\_TEMS\_VTAM\_APPL\_LLB\_BROKER parameter [1297](#)  
 K\_TEMS\_VTAM\_LU62\_DLOGMOD parameter [1297](#)  
 K\_TEMS\_VTAM\_LU62\_MODETAB parameter [1298](#)  
 K\_TEMS\_VTAM\_NETID parameter [1298](#)  
 K\_USS\_EXEC batch parameter [1324](#)  
 K\_X\_AGT\_CONFIRM\_SHUTDOWN parameter [1299](#)  
 K\_X\_AGT\_DEBUG\_TRACEE parameter [1299](#)  
 K\_X\_AGT\_KDC\_DEBUG parameter [1300](#)  
 K\_X\_AGT\_LGSA\_VERIFY parameter [1301](#)  
 K\_X\_AGT\_LSRPOOL\_BUFFER\_NUM parameter [1302](#)  
 K\_X\_AGT\_LSRPOOL\_BUFSIZEE parameter [1302](#)  
 K\_X\_AGT\_SDUMP\_SVC\_SYS1\_DUMP parameter [1303](#)  
 K\_X\_AGT\_STORAGE\_LIMIT\_EXTEND parameter [1304](#)  
 K\_X\_AGT\_STORAGE\_LIMIT\_PRIMARY parameter [1304](#)  
 K\_X\_AGT\_STORAGE\_RESERVE\_EXT parameter [1305](#)  
 K\_X\_AGT\_STORAGE\_RESERVE\_PRI parameter [1305](#)  
 K\_X\_AGT\_STORAGE\_STGDEBUG parameter [1306](#)  
 K\_X\_AGT\_TASKS\_ATTACHED\_NUM parameter [1307](#)  
 K\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID parameter [1307](#)  
 K\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBBKR parameter [1308](#)  
 K\_X\_HUB\_TEMS\_VTAM\_NETID parameter [1308](#)  
 K\_X\_HUB\_VTAM\_APPL\_GLBBKR parameter [1308](#)  
 K\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS parameter [1309](#)  
 K\_X\_KDE\_TRANSPORT\_OPTIONS parameter [1310](#)  
 K\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS parameter [1310](#)  
 K\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC parameter [1311](#)  
 KAG parameters [1261](#)  
 KAG\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG [452](#)  
 KAG\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG parameter [1261](#)  
 KBB library service [1216](#)  
 KBBENV member [1221](#)  
 KCI\$IW2R [256](#)  
 KCI\$XW2R [256](#)  
 KCIJLOD job [818](#)  
 KCIJPALO job [475](#), [865](#)  
 KCIJPALO RTE Build/Allocation job [1246](#)  
 KCIJPCFG job [209](#), [852](#)  
 KCIJPCPR job [475](#), [865](#)  
 KCIJPLNK job [475](#), [865](#)  
 KCIJPLOD job [490](#), [475](#), [498](#), [818](#), [818](#), [818](#), [865](#)  
 KCIJPSEC composite security job [492](#)  
 KCIJPSEC job [475](#), [865](#)  
 KCIJPSYS job [475](#), [865](#)  
 KCIJPUPV job [475](#), [865](#)  
 KCIJPUSP job [475](#), [865](#)  
 KCIJPUSS job [475](#), [865](#)  
 KCIJPW2R/KCIJPW1R job [199](#), [201](#), [197](#), [475](#), [820](#), [823](#),  
[865](#)  
 KCIJV\* PARMGEN jobs [1246](#)  
 KCIOMEGA workflow [274](#)  
 KCIPRINT sysout data set [275](#)

KCITRACE sysout data set [275](#)  
 KCIVARS [236](#)  
 KCIVARSO sysout data set [275](#)  
 KD2\_DB\_DB2\_PROFID [1248](#)  
 KD2\_DB\_DB2\_SSID parameter [1248](#)  
 KD2\_OMPE\_DB2EXIT batch parameter [1318](#)  
 KD2\_OMPE\_DB2LOADLIB\_V batch parameter [1318](#)  
 KD2\_OMPE\_DB2RUNLIB\_V batch parameter [1319](#)  
 KD2\_PF\_PROFID [1248](#)  
 KDC\_DEBUG parameter [1404](#)  
 KDC\_PARTITIONFILE parameter [1395](#)  
 KDCFC\_ALIAS parameter [1419](#)  
**KDE\_TRANSPORT environment variable**  
   COUNT option [151](#), [151](#)  
   POOL option [151](#), [152](#)  
   SKIP option [151](#), [151](#)  
 KDE\_TRANSPORT parameter [1374](#), [1374](#), [1375](#), [1375](#),  
[1376](#), [1376](#), [1402](#), [1413](#), [1414](#), [1414](#), [1415](#), [1416](#), [1417](#)  
 KDEB\_INTERFACELIST environment variable [152](#)  
 KDO\_DB2\_LOADLIB batch parameter [1319](#)  
 KDS9101I [2300](#)  
 KDS9102I [2300](#)  
 KDS9103I [2300](#)  
 KDS9104I [2300](#)  
 KDS9105I [2300](#)  
 KDS9106I [2300](#)  
 KDS9107I [2300](#)  
 KDS9108I [2300](#)  
 KDS9109I [2301](#)  
 KDS9110I [2301](#)  
 KDS9111I [2301](#)  
 KDS9112I [2301](#)  
 KDS9113I [2301](#)  
 KDS9114I [2301](#)  
 KDS9115I [2301](#)  
 KDS9116I [2301](#)  
 KDS9117I [2302](#)  
 KDS9118I [2302](#)  
 KDS9119I [2302](#)  
 KDS9131E [2302](#)  
 KDS9133E [2302](#)  
 KDS9134E [2302](#)  
 KDS9141I [2303](#)  
 KDS9142I [2303](#)  
 KDS9143I [2303](#)  
 KDS9144I [2303](#)  
 KDS9150I [2303](#)  
 KDS9151E [2303](#)  
 KDS9152I [2304](#)  
 KDS\_AUDIT\_ITM\_DOMAIN batch parameter [1372](#)  
 KDS\_AUDIT\_ITM\_DOMAIN parameter [1372](#)  
 KDS\_AUDIT\_MAX\_HIST batch parameter [1373](#)  
 KDS\_AUDIT\_MAX\_HIST parameter [1373](#)  
 KDS\_AUDIT\_TRACE batch parameter [1373](#)  
 KDS\_AUDIT\_TRACE parameter [1373](#)  
 KDS\_CMS\_COMM\_XLAT batch parameter [1395](#)  
 KDS\_CMS\_CTSOAP batch parameter [1408](#)  
 KDS\_CMS{EIF batch parameter [1399](#)  
 KDS\_CMS{EIF\_BFR\_EVT\_MAX batch parameter [1397](#)  
 KDS\_CMS{EIF\_DISABLE\_EMT batch parameter [1398](#)  
 KDS\_CMS{EIF\_EVT\_LISTENER batch parameter [1398](#)  
 KDS\_CMS{EIF\_FLT\_MODE batch parameter [1429](#)  
 KDS\_CMS{EIF\_PORT batch parameter [1400](#)  
 KDS\_CMS\_EXT\_LIM batch parameter [1410](#)  
 KDS\_CMS\_FLUSH\_INT\_HR batch parameter [1400](#)  
 KDS\_CMS\_FLUSH\_INT\_MIN batch parameter [1401](#)  
 KDS\_CMS\_HA\_EXCL\_LIST batch parameter [1401](#)  
 KDS\_CMS\_ICU\_LANG batch parameter [1403](#)  
 KDS\_CMS\_KDC\_DEBUG batch parameter [1404](#)  
 KDS\_CMS\_KGL\_WTO batch parameter [1405](#)  
 KDS\_CMS\_KLX\_TCP\_RECYCLE batch parameter [1406](#)  
 KDS\_CMS\_PART\_NAME batch parameter [1406](#)  
 KDS\_CMS\_SEC\_ENC\_KEY batch parameter [1407](#)  
 KDS\_CMS\_STC batch parameter [1408](#)  
 KDS\_CMS\_STOR\_DTL\_INT\_HR batch parameter [1408](#)  
 KDS\_CMS\_STOR\_DTL\_INT\_MIN batch parameter [1409](#)  
 KDS\_CMS\_STOR\_DTL\_LOG batch parameter [1409](#)  
 KDS\_CMS\_STOR\_MIN\_EXT batch parameter [1411](#)  
 KDS\_CMS\_TCP\_STC batch parameter [1416](#)  
 KDS\_CMS\_TCP\_UDP6\_PORT batch parameter [1417](#)  
 KDS\_CMS\_VTM\_APPL\_DS batch parameter [1418](#)  
 KDS\_CMS\_VTM\_APPL\_GLB batch parameter [1418](#)  
 KDS\_CMS\_VTM\_APPL\_LL\_B batch parameter [1419](#)  
 KDS\_CMS\_VTM\_APPL\_PREF batch parameter [1419](#)  
 KDS\_CMS\_VTM\_LOADLIB batch parameter [1325](#)  
 KDS\_CMS\_VTM\_LU62\_LOG batch parameter [1419](#)  
 KDS\_CMS\_VTM\_LU62\_LOGTAB batch parameter [1420](#)  
 KDS\_CMS\_VTM\_MACLIB batch parameter [1324](#)  
 KDS\_CMS\_VTM\_NETID batch parameter [1420](#)  
 KDS\_CMS\_VTM\_NODE batch parameter [1420](#)  
 KDS\_HFS\_JAVA\_DIR batch parameter [1328](#)  
 KDS\_HUB\_GLB\_APPL batch parameter [1377](#)  
 KDS\_HUB\_HA\_TYP batch parameter [1377](#)  
 KDS\_HUB\_TCP\_HOST parameter [1374](#)  
 KDS\_HUB\_TCP\_PIPE6\_PORT\_NUM parameter [1374](#)  
 KDS\_HUB\_TCP\_PIPE6S\_PORT\_NUM parameter [1375](#)  
 KDS\_HUB\_TCP\_PIPE\_PORT\_NUM parameter [1374](#)  
 KDS\_HUB\_TCP\_PIPES\_PORT\_NUM parameter [1375](#)  
 KDS\_HUB\_TCP\_UDP6\_PORT\_NUM parameter [1376](#)  
 KDS\_HUB\_TCP\_UDP\_PORT\_NUM parameter [1376](#)  
 KDS\_HUB\_TEMS\_HA\_TYPE parameter [1377](#)  
 KDS\_HUB\_TEMS\_NAME\_NODEID parameter [1377](#)  
 KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER parameter [1377](#)  
 KDS\_HUB\_VTAM\_NETID parameter [1378](#)  
 KDS\_HUB\_VTM\_NETID batch parameter [1378](#)  
 KDS\_KMS\_SDA batch parameter [1378](#)  
 KDS\_KMS\_SDA parameter [1378](#)

KDS\_KMS\_SDA\_NO\_GRANULAR parameter 1379  
 KDS\_KMS\_SECURITY\_COMPATMD parameter 1379  
 KDS\_MIG\_TAPE\_HILEV batch parameter 1380  
 KDS\_MIG\_TAPE\_HILEV parameter 1380  
 KDS\_MIG\_TAPE\_UNIT batch parameter 1380  
 KDS\_MIG\_TAPE\_UNIT parameter 1380  
 KDS\_MIG\_TAPE\_VOL batch parameter 1381  
 KDS\_MIG\_TAPE\_VOL parameter 1381  
 KDS\_MIG\_VSAM\_HILEV batch parameter 1381  
 KDS\_MIG\_VSAM\_HILEV parameter 1381  
 KDS\_PA batch parameter 1381  
 KDS\_PA parameter 1381  
 KDS\_PA\_ADDR batch parameter 1382  
 KDS\_PA\_NAME batch parameter 1382  
 KDS\_PA\_PARTITION\_ADDRESS parameter 1382  
 KDS\_PA\_PARTITION\_NAME parameter 1382  
 KDS\_PA\_ROW batch parameter 1383  
 KDS\_PA\_ROW parameter 1383  
 KDS\_PD\_CYL batch parameter 1383  
 KDS\_PD\_CYL parameter 1383  
 KDS\_PDS2\_ACTIVATION 1383  
 KDS\_PDS2\_FILE\_COUNT 1384  
 KDS\_PDS2\_STORE\_SIZE 1385  
 KDS\_PH batch parameter 1385  
 KDS\_PH parameter 1385  
 KDS\_PH\_CMS\_ALIAS\_NAME batch parameter 1386  
 KDS\_PH\_CMS\_COMM\_PRO1 batch parameter 1387  
 KDS\_PH\_CMS\_KSH\_SECURE batch parameter 1387  
 KDS\_PH\_CMS\_RTE batch parameter 1387  
 KDS\_PH\_CMS\_SYSV batch parameter 1388  
 KDS\_PH\_CMS\_TCP\_PORT batch parameter 1388  
 KDS\_PH\_CMS\_USER\_QUERY batch parameter 1389  
 KDS\_PH\_CMS\_USER\_UPDATE batch parameter 1389  
 KDS\_PH\_CMS\_VTM\_APPL\_GLB batch parameter 1390  
 KDS\_PH\_CMS\_VTM\_LU62\_LOG batch parameter 1390  
 KDS\_PH\_CMS\_VTM\_NETID batch parameter 1390  
 KDS\_PH\_ROW batch parameter 1386  
 KDS\_PH\_ROW parameter 1386  
 KDS\_PH\_TEMS\_ALIAS\_NAME parameter 1386  
 KDS\_PH\_TEMS\_COMM\_PROTOCOL1 parameter 1387  
 KDS\_PH\_TEMS\_KSH\_SECURE parameter 1387  
 KDS\_PH\_TEMS\_RTE parameter 1387  
 KDS\_PH\_TEMS\_SYSV\_FLAG parameter 1388  
 KDS\_PH\_TEMS\_TCP\_PORT\_NUM parameter 1388  
 KDS\_PH\_TEMS\_USER\_QUERY parameter 1389  
 KDS\_PH\_TEMS\_USER\_UPDATE parameter 1389  
 KDS\_PH\_TEMS\_VTAM\_APPL\_GLB\_BROKER parameter 1390  
 KDS\_PH\_TEMS\_VTAM\_LU62\_DLOGMOD parameter 1390  
 KDS\_PH\_TEMS\_VTAM\_NETID parameter 1390  
 KDS\_PHnn\_TEMS\_TCP\_HOST parameter 1388  
 KDS\_PPI\_RECEIVER batch parameter 1391  
 KDS\_PPI\_RECEIVER parameter 1391  
 KDS\_PPI\_SENDER batch parameter 1391  
 KDS\_PPI\_SENDER parameter 1391  
 KDS\_PU batch parameter 1392  
 KDS\_PU parameter 1392  
 KDS\_PU\_CMS\_USER\_ID batch parameter 1393  
 KDS\_PU\_CMS\_USER\_QUERY batch parameter 1393  
 KDS\_PU\_CMS\_USER\_UPDATE batch parameter 1393  
 KDS\_PU\_ROW batch parameter 1392  
 KDS\_PU\_ROW parameter 1392  
 KDS\_PU\_TEMS\_USER\_ID parameter 1393  
 KDS\_PU\_TEMS\_USER\_QUERY parameter 1393  
 KDS\_PU\_TEMS\_USER\_UPDATE parameter 1393  
 KDS\_SAFAPPL parameter 1394  
 KDS\_STREAM\_SITUATION\_STATUS 1394  
 KDS\_TEMA\_SDA batch parameter 1394  
 KDS\_TEMA\_SDA parameter 1394  
 KDS\_TEMS\_COMM\_ADDRESS\_XLAT parameter 1395  
 KDS\_TEMS\_COMM\_PROTOCOL parameter 1395  
 KDS\_TEMS\_DRA\_FLAG batch parameter 1397  
 KDS\_TEMS\_DRA\_FLAG parameter 1397  
 KDS\_TEMS\_EIF\_BUFFER\_EVENT\_MAXSIZE parameter 1397  
 KDS\_TEMS\_EIF\_DISABLE\_TEC\_EMITTER parameter 1398  
 KDS\_TEMS\_EIF\_EVENT\_LISTENER parameter 1398  
 KDS\_TEMS\_EIF\_FLAG parameter 1399  
 KDS\_TEMS\_EIF\_HOST parameter 1399  
 KDS\_TEMS\_EIF\_PORT\_NUM parameter 1400  
 KDS\_TEMS\_FLUSH\_LSR\_BUFR\_INT\_HR parameter 1400  
 KDS\_TEMS\_FLUSH\_LSR\_BUFR\_INT\_MIN parameter 1401  
 KDS\_TEMS\_HA\_EXCL\_LIST parameter 1401  
 KDS\_TEMS\_HA\_TYPE parameter 1402  
 KDS\_TEMS\_HTTP\_PORT\_NUM parameter 1402  
 KDS\_TEMS\_HTTPS\_PORT\_NUM 1403  
 KDS\_TEMS\_ICU\_LANGUAGE\_LOCALE parameter 1403  
 KDS\_TEMS\_KDC\_DEBUG parameter 1404  
 KDS\_TEMS\_KGL\_WTO parameter 1405  
 KDS\_TEMS\_KLX\_TCP\_TOLERATERECYCLE parameter 1406  
 KDS\_TEMS\_PARTITION\_NAME parameter 1406  
 KDS\_TEMS\_PROC\_SHARED 1407  
 KDS\_TEMS\_SECURITY\_KAES256\_ENCKEY parameter 1407  
 KDS\_TEMS\_SECURITY\_KDS\_VALIDATE parameter 1407  
 KDS\_TEMS\_SOAP\_SERVER\_FLAG parameter 1408  
 KDS\_TEMS\_STC parameter 1408  
 KDS\_TEMS\_STORAGE\_DETAIL\_INT\_HR parameter 1408  
 KDS\_TEMS\_STORAGE\_DETAIL\_INT\_MIN parameter 1409  
 KDS\_TEMS\_STORAGE\_DETAIL\_LOG\_FLAG parameter 1409  
 KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND parameter 1410  
 KDS\_TEMS\_STORAGE\_LIMIT\_PRIMARY parameter 1410  
 KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND parameter 1411

[KDS\\_TEMS\\_TCP\\_HOST parameter 1412](#)  
[KDS\\_TEMS\\_TCP\\_KDEB\\_INTERFACELIST parameter 1412](#)  
[KDS\\_TEMS\\_TCP\\_PIPE6\\_PORT\\_NUM parameter 1414](#)  
[KDS\\_TEMS\\_TCP\\_PIPE6S\\_PORT\\_NUM parameter 1414](#)  
[KDS\\_TEMS\\_TCP\\_PIPE\\_PORT\\_NUM parameter 1413](#)  
[KDS\\_TEMS\\_TCP\\_PIPES\\_PORT\\_NUM parameter 1415](#)  
[KDS\\_TEMS\\_TCP\\_STC parameter 1416](#)  
[KDS\\_TEMS\\_TCP\\_UDP6\\_PORT\\_NUM parameter 1417](#)  
[KDS\\_TEMS\\_TCP\\_UDP\\_PORT\\_NUM parameter 1416](#)  
[KDS\\_TEMS\\_TYPE parameter 1417](#)  
[KDS\\_TEMS\\_VTAM\\_APPL\\_GLB\\_BROKER parameter 1418](#)  
[KDS\\_TEMS\\_VTAM\\_APPL\\_KDS\\_VTAMID parameter 1418](#)  
[KDS\\_TEMS\\_VTAM\\_APPL\\_PREFIX parameter 1419](#)  
[KDS\\_TEMS\\_VTAM\\_LU62\\_DLOGMOD parameter 1419](#)  
[KDS\\_TEMS\\_VTAM\\_LU62\\_MODETAB parameter 1420](#)  
[KDS\\_TEMS\\_VTAM\\_NETID parameter 1420](#)  
[KDS\\_TEMS\\_VTAM\\_NODE parameter 1420](#)  
[KDS\\_USS\\_EXEC batch parameter 1324](#)  
[KDS\\_VALIDATE 552](#)  
[KDS\\_VTAMID parameter 1418](#)  
[KDS\\_X\\_HUB\\_BKUP1\\_TCP\\_HOST parameter 1421](#)  
[KDS\\_X\\_HUB\\_BKUP1\\_TEMS\\_VTAM\\_NETID parameter 1421](#)  
[KDS\\_X\\_HUB\\_BKUP1\\_VTAM\\_APPL\\_GLB\\_BKR parameter 1422](#)  
[KDS\\_X\\_HUB\\_CMS\\_FTO\\_FLAG parameter 1422](#)  
[KDS\\_X\\_KDCFC\\_RXLIMIT parameter 1423](#)  
[KDS\\_X\\_KDE\\_TRANSPORT\\_GBL\\_OPTIONS parameter 1423](#)  
[KDS\\_X\\_KDE\\_TRANSPORT\\_HTTP\\_OPTIONS parameter 1424](#)  
[KDS\\_X\\_KDE\\_TRANSPORT\\_OPTIONS parameter 1424](#)  
[KDS\\_X\\_KDE\\_TRANSPORT\\_POOL\\_OPTIONS parameter 1425](#)  
[KDS\\_X\\_STC\\_SYSTCPD\\_INCLUDE\\_FLAG 452](#)  
[KDS\\_X\\_STC\\_SYSTCPD\\_INCLUDE\\_FLAG parameter 1425](#)  
[KDS\\_X\\_TEMS\\_CONFIRM\\_SHUTDOWN parameter 1426](#)  
[KDS\\_X\\_TEMS\\_DEBUG\\_TRACE parameter 1426](#)  
[KDS\\_X\\_TEMS\\_EIF\\_BUFVTPATH parameter 1428](#)  
[KDS\\_X\\_TEMS\\_EIF\\_BUFFEREVENTS parameter 1427](#)  
[KDS\\_X\\_TEMS\\_EIF\\_FILTER\\_ATTR1 parameter 1428](#)  
[KDS\\_X\\_TEMS\\_EIF\\_FILTER\\_CLASS1 parameter 1428](#)  
[KDS\\_X\\_TEMS\\_EIF\\_FILTERMODE parameter 1429](#)  
[KDS\\_X\\_TEMS\\_FRAME\\_STACK\\_SIZE parameter 1429](#)  
[KDS\\_X\\_TEMS\\_KDSSTRT1\\_DELAY\\_INT parameter 1430](#)  
[KDS\\_X\\_TEMS\\_LGSA\\_VERIFY parameter 1430](#)  
[KDS\\_X\\_TEMS\\_LOGBLOCK\\_RKLVLOG\\_SIZE parameter 1430](#)  
[KDS\\_X\\_TEMS\\_LOGBUFS\\_RKLVLOG\\_BUFSZ parameter 1431](#)  
[KDS\\_X\\_TEMS\\_LSRPOOL\\_BUFFER\\_NUM parameter 1431](#)  
[KDS\\_X\\_TEMS\\_LSRPOOL\\_BUFSIZE parameter 1432](#)  
[KDS\\_X\\_TEMS\\_LSRSTRNO\\_CONCURRENT parameter 1433](#)  
[KDS\\_X\\_TEMS\\_SDUMP\\_SVC\\_SYS1\\_DUMP parameter 1433](#)  
[KDS\\_X\\_TEMS\\_STORAGE\\_RESERVE\\_PRI parameter 1434](#)  
[KDS\\_X\\_TEMS\\_STORAGE\\_STGDEBUG parameter 1435](#)  
[KDS\\_X\\_TEMS\\_TASKS\\_ATTACHED\\_NUM parameter 1436](#)  
[KDS\\_X\\_TEMS\\_WTO parameter 1436](#)  
[KSDSC001 2304](#)  
[KSDSC002 2304](#)  
[KSDSC003 2304](#)  
[KDSMA001 2304](#)  
[KDSMA002 2304](#)  
[KDSMA003 2304](#)  
[KDSMA004 2305](#)  
[KDSMA005 2305](#)  
[KDSMA006 2305](#)  
[KDSMA007 2305](#)  
[KDSMA008 2305](#)  
[KDSMA009 2305](#)  
[KDSMA010 2306](#)  
[KDSMA011 2306](#)  
[KDSMA012 2306](#)  
[KDSMA013 2306](#)  
[KDSMA014 2306](#)  
[KDSNC001 2306](#)  
[KDSNC002 2307](#)  
[KDSNC003 2307](#)  
[KDSNC004 2307](#)  
[KDSNC005 2307](#)  
[KDSNC006 2307](#)  
[KDSNC007 2307](#)  
[KDSNC008 2307](#)  
[KDSNC009 2307](#)  
[KDSO32 1187](#)  
[KDSO64 1187](#)  
[KDSOLIC 1187](#)  
[KDSOSA 1187](#)  
[KDSOSU 1187](#)  
[KDSPA001 2308](#)  
[KDSPA002 2308](#)  
[KDSPA003 2308](#)  
[KDSPA004 2308](#)  
[KDSPM001 2308](#)  
[KDSPM021 2309](#)  
[KDSRU001 2309](#)  
[KDSSA001 2309](#)  
[KDSSA002 2309](#)  
[KDSSA003 2309](#)  
[KDSSA004 2309](#)  
[KDSSYSIN member 540, 541](#)  
[KDSTHUBS table 139](#)  
[KENV 552](#)  
[KEYCOLS 1040](#)  
[keyword, IF 969](#)  
[keywords 1028](#)  
**keywords**  
[COLUMNS132 1033](#)

COLUMNS160 [1033](#)  
 FILTERVIEWS [1039](#)  
 locale profile [980](#)  
 MODE [1030](#)  
 NAME [1041](#)  
 NAV1TEXT [1030](#)  
 NAV2TEXT [1030](#)  
 PARTIALCOLS [1042](#)  
 popup panel [1054](#)  
 SCROLLCOLS [1045](#)  
 SCROLLROWS [1045](#)  
 TEXT [1047](#)  
 KFJ messages [373](#)  
 KFJ parameters [299](#)  
 KFJ\_ADRDSSU\_ADMIN [299](#)  
 KFJ\_EMBEDS\_LIB parameter [337](#)  
 KFJ\_LOCAL\_HILEV [301](#)  
 KFJ\_LOCAL\_KD5\_RUN\_ALLOC [301](#)  
 KFJ\_LOCAL\_PDS\_HILEV [301](#)  
 KFJ\_LOCAL\_PLIB\_HILEV [302](#)  
 KFJ\_LOCAL\_SMS\_MGMTCLAS [302](#)  
 KFJ\_LOCAL\_SMS\_STORCLAS [302](#)  
 KFJ\_LOCAL\_SMS\_UNIT [303](#)  
 KFJ\_LOCAL\_SMS\_VOLUME [303](#)  
 KFJ\_LOCAL\_SMS\_VSAM\_MGMTCLAS [303](#)  
 KFJ\_LOCAL\_SMS\_VSAM\_STORCLAS [304](#)  
 KFJ\_LOCAL\_SMS\_VSAM\_VOLUME [304](#)  
 KFJ\_LOCAL\_TARGET\_HILEV [304](#)  
 KFJ\_LOCAL\_USS\_RTEDIR [304](#)  
 KFJ\_LOCAL\_USS\_TKANJAR\_PATH [305](#)  
 KFJ\_LOCAL\_USS\_TKAYHFS\_PATH [305](#)  
 KFJ\_LOCAL\_VSAM\_HILEV [305](#)  
 KFJ\_PACK\_DATACLAS [306](#)  
 KFJ\_PACK\_HILEV [307](#)  
 KFJ\_PACK\_MGMTCLAS [307](#)  
 KFJ\_PACK\_STORCLAS [307](#)  
 KFJ\_PACK\_TERSE [308](#)  
 KFJ\_PACK\_UNIT [308](#)  
 KFJ\_PACK\_VOLUME [308](#)  
 KFJ\_PDCOL\_ADR\_ARCHIVE [309](#)  
 KFJ\_PDCOL\_COLLECT\_data [309](#)  
 KFJ\_PDCOL\_DA\_INTERVAL [310](#)  
 KFJ\_PDCOL\_DA\_SAMPLES [310](#)  
 KFJ\_PDCOL\_HLQ [310](#)  
 KFJ\_PDCOL\_JOB\_FILTER [311](#)  
 KFJ\_PDCOL\_JOB\_ID [311](#)  
 KFJ\_PDCOL\_JOB\_NAME [311](#)  
 KFJ\_PDCOL\_JOB\_OUTPUT [312](#)  
 KFJ\_PDCOL\_RESTORE\_HLQ [312](#)  
 KFJ\_PDCOLLECT\_ADRDSSU [312](#)  
 KFJ\_PDCOLLECT\_COMPATIBILITY [313](#)  
 KFJ\_PDCOLLECT\_PAX [313](#)  
 KFJ\_PDCOLLECT\_PAX\_DIR [313](#)  
 KFJ\_PDCOLLECT\_RESTORE [314](#)  
 KFJ\_SYSNAME parameter [314](#)  
 KFJ\_USE\_EMBEDS parameter [337](#)  
 KFJ messages [391](#)  
 KFWITM217E [534](#), [535](#)  
 KGL\_WTO parameter [1405](#)  
 KGLCMAP [549](#), [549](#)  
 KGLHC\_PPI\_RECEIVER parameter [1391](#)  
 KGLHC\_PPI\_SENDER parameter [1391](#)  
 KGLUMAP [549](#), [549](#)  
 KGW\_CTG\_DLL\_DSN batch parameter [1316](#)  
 KI5\_ICT\_SCEXLINK batch parameter [1320](#)  
 KI5\_ICT\_SFUNLINK batch parameter [1320](#)  
 KI5\_X\_ICT\_IMS\_CONNECT\_FLAG batch parameter [1320](#), [1320](#)  
 KINNAM [549](#), [553](#)  
 KLV@ASM member [541](#)  
 KLVA2NEV member [541](#)  
 KLVIN411 message [1221](#)  
 KMC\_CFG\_MCDB2\_LIB batch parameter [1319](#)  
 KMS\_DISABLE\_TEC\_EMITTER parameter [1398](#)  
 KMS\_OMTEC\_INTEGRATION parameter [1399](#)  
 KNA\_NETV\_LNKLIB batch parameter [1321](#)  
 KOB messages [1023](#), [1941](#), [1941](#), [2016](#), [2025](#)  
 KOB\_DRA\_BACKLOG parameter [1441](#)  
 KOB\_MT\_ENABLE parameter [1076](#), [1437](#)  
 KOB\_SAF\_ACTION\_CLASS\_NAME batch parameter [1441](#)  
 KOB\_SAF\_ACTION\_CLASS\_NAME parameter [1441](#)  
 KOB\_SAF\_APPLID parameter [1442](#)  
 KOB\_SAF\_FAILURE parameter [1442](#)  
 KOB\_SAF\_LOGON\_CLASS\_NAME batch parameter [1442](#)  
 KOB\_SAF\_LOGON\_CLASS\_NAME parameter [1442](#)  
 KOB\_SAF\_LOGON\_RESOURCE\_PREFIX batch parameter [1443](#)  
 KOB\_SAF\_LOGON\_RESOURCE\_PREFIX parameter [1443](#)  
 KOB\_SAF\_LOGON\_TRACE parameter [1443](#)  
 KOB\_SAF\_QUERY\_CLASS\_NAME [570](#)  
 KOB\_SAF\_QUERY\_CLASS\_NAME batch parameter [1443](#)  
 KOB\_SAF\_QUERY\_CLASS\_NAME parameter [1443](#)  
 KOB\_SITST\_EXCLUDE\_HUBS batch parameter [1444](#)  
 KOB\_SITST\_EXCLUDE\_HUBS parameter [1444](#)  
 KOB\_SITST\_HISTORY\_RANGE batch parameter [1444](#)  
 KOB\_SITST\_HISTORY\_RANGE parameter [1444](#)  
 KOB\_SITST\_HISTORY\_SLOTS batch parameter [1445](#)  
 KOB\_SITST\_HISTORY\_SLOTS parameter [1445](#)  
 KOB\_SITST\_INCLUDE\_HUBS batch parameter [1445](#)  
 KOB\_SITST\_INCLUDE\_HUBS parameter [1445](#)  
 KOB\_SITST\_RECENT\_SLOTS batch parameter [1446](#)  
 KOB\_SITST\_RECENT\_SLOTS parameter [1446](#)  
 KOB\_SITST\_SAMPLE\_MINUTES batch parameter [1446](#)  
 KOB\_SITST\_SAMPLE\_MINUTES parameter [1446](#)  
 KOB\_TIMEOUT [1437](#)  
 KOB\_TOM\_STC batch parameter [1437](#)

KOB\_TOM\_STC parameter [1437](#)  
KOB\_TOM\_VTAM\_APPL\_LOGON batch parameter [1438](#)  
KOB\_TOM\_VTAM\_APPL\_LOGON parameter [1438](#)  
KOB\_TOM\_VTAM\_NODE batch parameter [1439](#)  
KOB\_TOM\_VTAM\_NODE parameter [1439](#)  
KOBC00000E message [1941](#)  
KOBC00001E message [1941](#)  
KOBC00002E message [1941](#)  
KOBC00003E message [1942](#)  
KOBC00004E message [1942](#)  
KOBC00004I message [1942](#)  
KOBC00005I message [1942](#)  
KOBC00006E message [1942](#)  
KOBC00007E message [1942](#)  
KOBC00008E message [1943](#)  
KOBC00009E message [1943](#)  
KOBC00010E message [1943](#)  
KOBC00011E message [1943](#)  
KOBC00012E message [1944](#), [1944](#)  
KOBC00014E message [1944](#)  
KOBC00015E message [1944](#)  
KOBC00016E message [1944](#)  
KOBC00017E message [1945](#)  
KOBC00018E message [1945](#)  
KOBC00019E message [1945](#)  
KOBC00020E message [1945](#)  
KOBC00021E message [1945](#)  
KOBC00022E message [1946](#)  
KOBC00023E message [1946](#)  
KOBC00024E message [1946](#)  
KOBC00025E message [1946](#)  
KOBCEM0001E message [1947](#), [1947](#)  
KOBCEM0001I message [1947](#)  
KOBCEM0002E message [1947](#)  
KOBCEM0003E message [1947](#)  
KOBCEM0005E message [1948](#)  
KOBCEM0005W message [1963](#)  
KOBCEM0006E message [1948](#)  
KOBCEM0010E message [1948](#)  
KOBCEM0011E message [1949](#)  
KOBCEM0012E message [1949](#)  
KOBCEM0013E message [1949](#)  
KOBCEM0014E message [1950](#)  
KOBCEM0015E message [1950](#)  
KOBCEM0016E message [1950](#)  
KOBCEM0017E message [1950](#)  
KOBCEM0018E message [1951](#)  
KOBCEM0019E message [1951](#)  
KOBCEM0020W message [1951](#)  
KOBCEM0021E message [1951](#)  
KOBCEM0022W message [1952](#)  
KOBCEM0025W message [1952](#)  
KOBCEM0026W message [1953](#)  
KOBCEM0030E message [1953](#)  
KOBCEM0031E message [1953](#)  
KOBCEM0032E message [1954](#)  
KOBCEM0034E message [1954](#)  
KOBCEM0035E message [1954](#)  
KOBCEM0036E message [1954](#)  
KOBCEM0040E message [1955](#)  
KOBCEM0041E message [1955](#)  
KOBCEM0041W message [1955](#)  
KOBCEM0042E message [1955](#)  
KOBCEM0042W message [1956](#)  
KOBCEM0043I message [1956](#), [1956](#)  
KOBCEM0043W message [1956](#)  
KOBCEM0045E message [1957](#)  
KOBCEM0045I message [1957](#)  
KOBCEM0045W message [1957](#)  
KOBCEM0046I message [1958](#), [1959](#)  
KOBCEM0048I message [1959](#)  
KOBCEM0049W message [1959](#)  
KOBCEM0050E message [1960](#)  
KOBCEM0051W message [1960](#)  
KOBCEM0052E message [1960](#)  
KOBCEM0053E message [1961](#), [1961](#)  
KOBCEM0054E message [1961](#)  
KOBCEM0055W message [1961](#)  
KOBCEM0056W message [1962](#)  
KOBCEM0057I message [1962](#)  
KOBCEM0058I message [1962](#)  
KOBCEM0059I message [1963](#)  
KOBCEM0060I message [1963](#)  
KOBCEM0061I message [1963](#)  
KOBCEM0062I message [1964](#)  
KOBCEM0063I message [1964](#)  
KOBCEM0063W message [1964](#)  
KOBCEM0064I message [1964](#)  
KOBCEM0064W message [1964](#)  
KOBCEM0065I message [1965](#)  
KOBCEM0065W message [1965](#)  
KOBCEM0066I message [1965](#)  
KOBCEM0067I message [1965](#)  
KOBCEM0067W message [1966](#)  
KOBCEM0070W message [1966](#)  
KOBCEM0081I message [1966](#)  
KOBCEM0082W message [1966](#)  
KOBCEM0083I message [1967](#)  
KOBCEM0084I message [1967](#)  
KOBCEM0085W message [1967](#)  
KOBCEM0086I message [1967](#)  
KOBCEM0087I message [1967](#)  
KOBCEM0088W message [1967](#)  
KOBCEM0089I message [1968](#)  
KOBCEM0090W message [1968](#)  
KOBCEM0091I message [1968](#)

KOBCM0100W message [1968](#)  
KOBCM0110I message [1968](#)  
KOBCM0111W message [1969](#)  
KOBCM0112I message [1969](#)  
KOBCM0113I message [1969](#)  
KOBCM0114I message [1970](#)  
KOBCM0115I message [1970](#)  
KOBCM0116I message [1970](#)  
KOBCM0117W message [1971](#)  
KOBCM0118W message [1971](#)  
KOBCM0119W message [1971](#)  
KOBCM0120W message [1972](#)  
KOBCM0121W message [1972](#)  
KOBCM0125E message [1972](#)  
KOBCM0126E message [1973](#)  
KOBCM0127E message [1973](#)  
KOBCM0128E message [1973](#)  
KOBCM0129W message [1973](#)  
KOBCM0130E message [1974](#)  
KOBCM0131I message [1974](#)  
KOBCM0132W message [1974](#)  
KOBCM0133I message [1974](#)  
KOBCM0134W message [1975](#)  
KOBCM0135I message [1975](#)  
KOBCM0136W message [1975](#)  
KOBCM0137I message [1976](#)  
KOBCM0157I message [1976](#)  
KOBCM0158W message [1976](#)  
KOBCM0159W message [1976](#)  
KOBCM0160W message [1977](#)  
KOBCM0161W message [1977](#)  
KOBCM0162W message [1977](#)  
KOBCEA [976](#)  
KOBCEA profile [976](#)  
KOBDR001W message [1977](#)  
KOBDR002W message [1978](#)  
KOBDR003W message [1978](#)  
KOBDR004W message [1978](#)  
KOBDR005W message [1978](#)  
KOBDR006E message [1979](#)  
KOBDR007E message [1979](#)  
KOBDR008E message [1979](#)  
KOBDR009E message [1980](#)  
KOBDR010E message [1980](#)  
KOBDR011E message [1980](#)  
KOBDR012E message [1980](#)  
KOBDR013I message [1981](#)  
KOBDR020W message [1981](#)  
KOBDR023I message [1981](#)  
KOBDR024I message [1981](#)  
KOBDR025I message [1982](#)  
KOBDR026I message [1982](#)  
KOBDR027I message [1982](#)

KOBDR030I message [1982](#)  
KOBDR031I message [1983](#)  
KOBDR032E message [1983](#)  
KOBDR033I message [1983](#)  
KOBDR037I message [1983](#)  
KOBDR043I message [1984](#)  
KOBDR044I message [1984](#)  
KOBDR045I message [1984](#)  
KOBDR046I message [1985](#)  
KOBDR047I message [1985](#)  
KOBDR048W message [1985](#)  
KOBDR049I message [1985](#)  
KOBENUS [976](#)  
KOBGW0000I message [1986](#)  
KOBGW0001I message [1986](#)  
KOBGW0002E message [1986](#)  
KOBGW0003E message [1986](#)  
KOBGW0004E message [1987](#)  
KOBGW0005E message [1987](#)  
KOBGW0006E message [1987](#)  
KOBGW0007E message [1987](#)  
KOBGW0008E message [1987](#)  
KOBGW0009E message [1988](#)  
KOBGW0010E message [1988](#)  
KOBGW0011I message [1988](#)  
KOBGW0012E message [1988](#)  
KOBGW0013E message [1988](#)  
KOBGW0014E message [1989](#)  
KOBGW0015E message [1989](#)  
KOBGW0016E message [1989](#)  
KOBGW0017I message [1989](#)  
KOBGW0018E message [1989](#)  
KOBGW0019E message [1990](#)  
KOBGW0020E message [1990](#)  
KOBGW0021E message [1990](#)  
KOBGW0022E message [1990](#)  
KOBGW0023E message [1990](#)  
KOBGW0024E message [1991](#)  
KOBGW0025E message [1991](#)  
KOBGW0026E message [1991](#)  
KOBGW0027E message [1991](#)  
KOBGW0028E message [1992](#)  
KOBGW0029E message [1992](#)  
KOBGW0030E message [1992](#)  
KOBGW0031I message [1992](#)  
KOBGW0032E message [1992](#)  
KOBGW0033E message [1993](#)  
KOBGW0034E message [1993](#)  
KOBGW0035I message [1993](#)  
KOBGW0036E message [1993](#)  
KOBGW0037E message [1994](#)  
KOBGW0038E message [1994](#)  
KOBGW0039E message [1994](#)

KOBGW0040E message [1994](#)  
KOBGW0041E message [1995](#)  
KOBGW0042E message [1995](#)  
KOBGW0043E message [1995](#)  
KOBGW0044E message [1995](#)  
KOBGW0045E message [1995](#)  
KOBGW0046E message [1996](#)  
KOBGW0047I message [1996](#)  
KOBGW0048E message [1996](#)  
KOBGW0049E message [1996](#)  
KOBGW0050E message [1997](#)  
KOBGW0051E message [1997](#)  
KOBGW0052I message [1997](#)  
KOBGW0053I message [1997](#)  
KOBGW0054E message [1997](#)  
KOBGW0055E message [1998](#)  
KOBGW0056E message [1998](#)  
KOBGW0057E message [1998](#)  
KOBGW0058E message [1998](#)  
KOBGW0059E message [1999](#)  
KOBGW0060E message [1999](#)  
KOBGW0061E message [1999](#)  
KOBGW0062E message [1999](#)  
KOBGW0063E message [2000](#)  
KOBGW0064E message [2000](#)  
KOBGW0065E message [2000](#)  
KOBGW0066E message [2000](#)  
KOBGW0067E message [2001](#)  
KOBGW0068E message [2001](#)  
KOBGW0069E message [2001](#)  
KOBGW0070E message [2001](#)  
KOBGW0071W message [2002](#)  
KOBGW0072W message [2002](#)  
KOBGW0073W message [2002](#)  
KOBGW0074E message [2002](#)  
KOBGW0075E message [2003](#)  
KOBGW0076E message [2003](#)  
KOBGW0077E message [2003](#)  
KOBGW0078E message [2003](#)  
KOBGW0079E message [2004](#)  
KOBGW0080E message [2004](#)  
KOBGW0081E message [2004](#)  
KOBGW0083E message [2004](#)  
KOBGW0084E message [2005](#)  
KOBGW0085I message [2005](#)  
KOBGW0086E message [2005](#)  
KOBGW0087E message [2005](#)  
KOBGW0088E message [2006](#)  
KOBGW0089E message [2006](#)  
KOBGW0099I message [2008](#)  
KOBGW0100W message [2008](#)  
KOBGW0101W message [2009](#)  
KOBGW0102W message [2009](#)

KOBGW0103I message [2009](#)  
KOBGW0104W message [2009](#)  
KOBLI0001E message [2009](#)  
KOBLI0002E message [2010](#)  
KOBLI0003E message [2010](#)  
KOBLI0004E [2010](#)  
KOBLI0005E message [2010](#)  
KOBLI0006E message [2011](#)  
KOBLI0007I message [2011](#)  
KOBLI0008I message [2011](#)  
KOBLOGON [1078](#), [1061](#)  
KOBOD00002 message [2012](#)  
KOBOD00003I message [2012](#)  
KOBOD0000I message [2011](#)  
KOBOD0001I message [2012](#)  
KOBOD0004E message [2012](#)  
KOBOD0005E message [2012](#)  
KOBOD0006E message [2013](#)  
KOBOD0007E message [2013](#)  
KOBOD0008E message [2013](#)  
KOBOD0009E message [2014](#)  
KOBOD0010E message [2014](#)  
KOBOD0011E message [2014](#)  
KOBOD0012E message [2014](#)  
KOBOD0013E message [2015](#)  
KOBOD0014I message [2015](#)  
KOBOD0016E message [2015](#)  
KOBOD0017E message [2016](#)  
KOBOD0018E message [2016](#)  
KOBOD0019I message [2016](#)  
KOBRR0001E message [2025](#)  
KOBRR0002E message [2025](#)  
KOBRR0003E message [2026](#)  
KOBRR0004E message [2026](#), [2026](#)  
KOBRR0006E message [2026](#)  
KOBRR0007E message [2026](#)  
KOBRR0008E message [2027](#)  
KOBRR0009E message [2027](#)  
KOBRR0033I message [2027](#)  
KOBSEVTS [892](#), [893](#), [893](#)  
KOBSITEC [939](#)  
KOBTC0018E message [2028](#)  
KOBUT001I message [2028](#)  
KOBUT002I message [2028](#)  
KOBUT003W message [2028](#)  
KOBUT004I message [2029](#)  
KOBUT005I message [2029](#)  
KOBUT006I message [2029](#)  
KOBUT007I message [2030](#)  
KOBUT008I message [2030](#)  
KOBUT009I message [2030](#)  
KOBUT010I message [2030](#)  
KOBUT011I message [2031](#)

KOBUT012I message [2031](#)  
 KOBUT014I message [2031](#)  
 KOBUT015I message [2031](#)  
 KOBUT016I message [2032](#)  
 KOBUT021I message [2032](#)  
 KOBUT030I message [2032](#)  
 KOBUT031I message [2032](#)  
 KOBUT032I message [2033](#)  
 KOBUT099I message [2033](#)  
 KPCTL command file [1246](#)  
 KPDARCH program [1209](#)  
 KPDCOMMJ job [1200](#)  
 KPDDSCO [575](#)  
 KPDDSCO program [1209](#)  
 KPDMANE program [1209](#)  
 KPDPROC1 procedure [1196](#), [1196](#)  
 KPDPROCC [575](#)  
 KPDPROCC CLIST [1196](#), [1196](#)  
 KPDREST program [1209](#)  
 KPDUTIL program [1209](#)  
 KPDXTRA program [1206](#), [1209](#)  
 KPG command file [1246](#)  
 Kpp\_CLASSIC\_PASSPHRASE parameter [1283](#)  
 Kpp\_CLASSIC\_SAFAPPL parameter [1284](#)  
 Kpp\_CLASSIC\_TIMEOUT parameter [1285](#)  
 Kpp\_PDS\_FILE\_COUNT parameter [1288](#)  
 KPP\_TEMS\_TCP\_HOST [1293](#)  
 KPP\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS parameter [1309](#)  
 KQI\_CEE\_LE370\_LKED batch parameter [1314](#)  
 KQI\_CEE\_LE370\_RUN batch parameter [1315](#)  
 KQI\_CIC\_LOADLIB batch parameter [1317](#)  
 KQI\_MQS\_LOADLIB batch parameter [1328](#)  
 KSHXHUBS member [139](#)  
 KSYSIN startup memebers [498](#)

## L

LANG parameter [1403](#)  
 Language locale field [1267](#), [1403](#)  
 language locales [1403](#)  
**languages**  
   packs [67](#)  
   support [67](#), [557](#)  
 lateral scrolling [917](#)  
 LDAP registry [159](#)  
 Length field [1205](#)  
 LGSA parameter [1430](#)  
 LIBPATH environment variable [137](#)  
**libraries**  
   base [123](#)  
   LPAR-specific [123](#)  
   **runtime**  
     defined [123](#)  
   SMP/E target [123](#)

    target [123](#)  
     types [123](#)  
 LIMIT parameter [1410](#), [1410](#)  
 LINES keyword [1041](#)  
**lists**  
   hub monitoring servers [139](#)  
   user IDs [139](#)  
**load libraries**  
   APF-authorizing [104](#)  
   CNMLINK [1321](#)  
   ICSF [280](#)  
   NetView [1321](#)  
   RKANMOD [104](#)  
   RKANMODL [104](#)  
   RKANMODP [104](#)  
   RKANMODU [104](#)  
   TKANMOD [104](#)  
   TKANMODL [104](#)  
   TKANMOPD [104](#)  
 Load optimization field [1338](#)  
 Local location broker applid field [1291](#)  
 Local Location Broker applid field [1297](#)  
 Local location broker field [1419](#)  
 local registry [1016](#)  
**locale profile**  
   ACTIONBAR stanza [980](#)  
   keywords [980](#)  
   LOCALE stanza [980](#)  
 locale profiles [980](#)  
**locale profiles**  
   creating [980](#)  
 LOCALE stanza [980](#)  
**location brokers**  
   global [523](#)  
   local [523](#)  
 LOCENUS profile [980](#)  
 log on profile [1012](#)  
 log on profiles [896](#), [1006](#), [1006](#)  
 log-on profiles [976](#)  
 LOGBLOCK parameter [1430](#)  
 LOGBUFS parameter [1431](#)  
 login issues [1155](#)  
 Logmode table field [1363](#)  
 LOGMODE table name field [1298](#)  
 Logmode table name field [1420](#)  
 logmode tables system library [1325](#)  
 logon profiles [567](#)  
**Logs**  
   reviewing Zowe logs [1155](#)  
 low-level qualifiers [124](#)  
 LPAR configuration profile [415](#)  
 LPAR-specific libraries [123](#)  
 LSRPOOL parameter [1431](#), [1432](#)  
 LSRSTRNO parameter [1433](#)  
 LU6.2 logmode field [1291](#), [1297](#), [1363](#), [1419](#)

LUGROUP field [1357](#)

## M

macro library [1322](#)

maintenance [823](#)

Maintenance procedure prefix field [1342](#)

### **maintenance scenarios**

- adding a new product to an existing RTE [209](#)
- apply maintenance to existing environment [818](#)
- base libraries for the sharing RTE, refreshing [490](#)
- configuring a newly added product [209](#)
- disabling configuration of a deleted product [852](#)
- effects of changing PARMGEN parameters [844](#)
- overriding the default storage limit [498](#)
- performing post-SMP/E maintenance steps [818](#)
- refreshing read-only base libraries [490](#)
- retaining KOB SUPDT security exits updates [492](#)
- storage limit, increasing the default [498](#)
- upgrading a product to an existing runtime environment [206](#)
- upgrading an OMEGAMON to a production RTE [206](#)
- using PARMGEN [839](#)

Major Node field [1282](#)

managed system group [1064](#)

### **managed system groups**

- predefined [1148](#)

Managed System Node (MSN) [1061](#), [1064](#)

Managed Systems List (MSL) [1061](#), [1064](#), [1065](#)

### **Managed Systems List (MSL)**

- creating using TEP [1066](#)
- naming convention [1065](#)

management of historical data [456](#)

Map Length field [1204](#)

map user ID [549](#)

master facility accessor identifier [541](#)

maximizing subpanels [920](#)

Maximum storage request size (extended) field [1410](#)

Maximum storage request size (primary) field [1410](#)

member [337](#)

member, \$JOB CARD [1250](#)

member, IKJTSONN [575](#)

members and jobs [474](#)

menu interface [160](#)

menus [908](#)

### **message logging**

- components [1519](#)
- defined [1519](#)
- destination [1519](#)
- log locations [2298](#)
- log locations**
  - z/OS components [1520](#)
- prefixes [1519](#)
- RKLVLOG [2298](#)
- RKLVSnap [2298](#)
- RKPDLOG [2298](#)

RKPDOUT [2298](#)

z/OS components [1520](#)

### **z/OS components**

- component identifier [1520](#)
- ETE [1520](#)
- message format [1520](#)
- message number [1520](#)
- severity [1520](#)
- TMS:Engine [1520](#)

messages [373](#), [1573](#)

### **messages**

- KFJ messages [373](#)
- KFU messages [391](#)
- KLVIN411 [1221](#)
- types [1519](#)

Mgmtclas field [1350](#), [1351](#)

Mid-level qualifier field [1332](#)

mid-level qualifiers [124](#)

MIGRATE action [237](#)

migrate to IPv6 [595](#), [601](#), [604](#)

MIGRPT sysout data set [275](#)

minimizing subpanels [920](#)

Minimum extended storage field [1274](#), [1411](#)

MINIMUM parameter [1411](#)

MINMAX keyword [1041](#)

missing data [534](#), [535](#)

mixed environment [171](#)

MODE keyword [1030](#)

MODE keyword (subpanel) [1041](#)

MODE parameter [1074](#)

modifying thresholds [963](#)

### **monitoring agent**

- advanced agent configuration values**
  - K\_AGT\_ICU\_LANGUAGE\_LOCALE [1267](#)
  - K\_AGT\_WTO\_MSG [1282](#)

### **monitoring agents**

- address space [145](#)
- address spaces [145](#)
- autonomous [146](#), [173](#)
- base [59](#)
- completing the configuration [522](#)
- configure using PARMGEN [467](#)
- defined [59](#)
- OMEGAMON [59](#)
- overview [56](#)
- packaging [67](#)
- stand-alone [145](#), [145](#)

monitoring components [330](#)

### **monitoring server**

- high-availability hub [458](#)
- hub**
  - high-availability [458](#)
- remote [461](#)

MSL [1065](#)

MULTI parameter [1076](#)

multi-factor authentication [1509](#)

multiple hub support [894](#)  
MUSASS started task [541](#)  
MVS MODIFY command [542](#)

## N

Name field [1340](#)  
NAME keyword [1041](#)  
names, parameter [1258](#)  
**naming**  
    backup historical data sets [1200](#)  
    data sets, [124](#)  
    jobs, [125](#)  
    members, JCL [125](#)  
    TEMS name [134](#)  
NAV1TEXT keyword [1030](#)  
NAV2TEXT keyword [1030](#)  
**navigation**  
    closing subpanels [921](#)  
    collapsing subpanels [920](#)  
    expanding subpanels [920](#)  
    fastpath [922](#)  
    maximizing [920](#)  
    minimizing [920](#)  
    paging [922](#)  
    scrolling [922](#)  
    selecting [918](#)  
    SHOWNAV command [923](#)  
    zooming [922](#)  
    Zooming [922](#)  
Navigation History option [923](#)  
navigator [1149](#), [1149](#)  
**navigator**  
    tour [1149](#)  
**near-term history**  
    application selection [933](#)  
    data collection configuration [933](#)  
    historical snapshot [931](#)  
    historical summary [929](#)  
    history time-span [932](#)  
Netcool/OMNIbus [140](#)  
Netcool/OMNIbus ObjectServer [57](#)  
**NetView**  
    CNMSTYLE member [545](#)  
    Take Action command authorization  
        configuring [544](#)  
NetView CNMLINK load library [1321](#)  
NetView PPI receiver field [1271](#), [1391](#)  
**Network Access Method (NAM)**  
    NAM SET statements [542](#)  
    passwords [542](#), [542](#)  
    setting up security [542](#)  
    user IDs [542](#), [542](#)  
Network address (host name of Secondary TEMS) field  
[1290](#)  
Network address (Hostname of Hub) field [1374](#)  
Network ID field [1292](#), [1298](#), [1354](#), [1363](#), [1420](#)

Network ID of hub field [1378](#)  
network interface list [152](#)  
Network interface list field [1275](#), [1412](#)  
Newest Row field [1204](#)  
no data condition [1006](#), [1006](#), [1079](#)  
node ID [536](#), [537](#)  
nodeServer issues [1155](#)  
NOFF option [1206](#)  
not configured [1008](#)  
**not created**  
    OMEGAMON components [1008](#)  
not registered [1012](#)

## O

Object Group Editor [1065](#), [1066](#)  
Oldest Row field [1204](#)  
**OMEGAMON**  
    components [54](#)  
    **If the Agent requires network interface list support**  
        K\_AGT\_TCP\_KDEB\_INTERFACELIST [1275](#)  
    overview [54](#)  
OMEGAMON (3270) interface [164](#)  
**OMEGAMON Advanced Agent configuration values**  
    K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR [1265](#)  
    K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN [1266](#)  
    K\_AGT\_KGL\_WTO [1268](#)  
    K\_AGT\_KLX\_TCP\_TOLERATERECYCLE [1269](#)  
    K\_AGT\_STORAGE\_DETAIL\_INT\_HR [1273](#)  
    K\_AGT\_STORAGE\_DETAIL\_INT\_MIN [1274](#)  
    K\_AGT\_STORAGE\_MINIMUM\_EXTEND [1274](#)  
    K\_AGT\_VIRTUAL\_IP\_ADDRESS [1278](#)  
**OMEGAMON Agent's Applids**  
    K\_AGT\_VTAM\_APPL\_AA [1279](#)  
    K\_AGT\_VTAM\_APPL\_KINVPO [1279](#)  
    K\_AGT\_VTAM\_APPL\_NCS [1280](#)  
    K\_AGT\_VTAM\_APPL\_OPERATOR [1280](#)  
**OMEGAMON Agent's local VTAM and logon information**  
    K\_AGT\_VTAM\_APPL\_PREFIX [1281](#)  
    K\_AGT\_VTAM\_NODE [1282](#)  
**OMEGAMON Agent's Primary TEMS VTAM information**  
    K\_TEMS\_VTAM\_APPL\_LLB\_BROKER [1297](#)  
    K\_TEMS\_VTAM\_LU62\_DLOGMODE [1297](#)  
    K\_TEMS\_VTAM\_LU62\_MODETAB [1298](#)  
    K\_TEMS\_VTAM\_NETID [1298](#)  
OMEGAMON Agents [896](#), [1006](#)  
OMEGAMON agents [1006](#)  
**OMEGAMON enhanced 3270 user interface**  
    configure using PARMGEN [466](#)  
    considerations [158](#)  
    enable security [564](#)  
    features [55](#)  
    OMEGAMON components [896](#), [1006](#), [1006](#)  
    requirements [162](#)  
OMEGAMON Enhanced 3270 User Interface [896](#), [1006](#),  
[1006](#)  
OMEGAMON Enhanced 3270 user interface [1005](#)

OMEGAMON Enhanced 3270 User Interface address space [896](#), [1006](#), [1006](#)

OMEGAMON Enhanced 3270 user interface log file [1018](#), [1016](#)

OMEGAMON for JVM on z/OS [893](#)

OMEGAMON for z/VM and Linux [893](#)

OMEGAMON historical collection is being performed by the monitoring agent address space  
 K\_PD\_HISTCOLL\_DATA\_IN\_AGT\_STC [1286](#)

OMEGAMON Historical data collection by the Tivoli Enterprise Monitoring Server address space [1287](#)

OMEGAMON If the Agent requires address translation support  
 K\_AGT\_PARTITION\_NAME [1270](#)

OMEGAMON II (CUA) interface [164](#)

OMEGAMON monitoring agent [1014](#)

OMEGAMON monitoring agent  
 Advanced Agent configuration values  
 K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR [1265](#)  
 K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN [1266](#)  
 K\_AGT\_KGL\_WTO [1268](#)  
 K\_AGT\_KLX\_TCP\_TOLERATERECYCLE [1269](#)  
 K\_AGT\_STORAGE\_DETAIL\_INT\_HR [1273](#)  
 K\_AGT\_STORAGE\_DETAIL\_INT\_MIN [1274](#)  
 K\_AGT\_STORAGE\_MINIMUM\_EXTEND [1274](#)  
 K\_AGT\_VIRTUAL\_IP\_ADDRESS [1278](#)

Agent's Applids  
 K\_AGT\_VTAM\_APPL\_AA [1279](#)  
 K\_AGT\_VTAM\_APPL\_KINVPO [1279](#)  
 K\_AGT\_VTAM\_APPL\_NCS [1280](#)  
 K\_AGT\_VTAM\_APPL\_OPERATOR [1280](#)

Agent's local VTAM and logon information  
 K\_AGT\_VTAM\_APPL\_PREFIX [1281](#)  
 K\_AGT\_VTAM\_NODE [1282](#)

Agent's Primary TEMS VTAM information  
 K\_TEMS\_VTAM\_APPL\_LL\_BROKER [1297](#)  
 K\_TEMS\_VTAM\_LU62\_DLOGMOD [1297](#)  
 K\_TEMS\_VTAM\_LU62\_MDETAB [1298](#)  
 K\_TEMS\_VTAM\_NETID [1298](#)

historical collection is being performed by the monitoring agent address space  
 K\_PD\_HISTCOLL\_DATA\_IN\_AGT\_STC [1286](#)

Historical data collection by the Tivoli Enterprise Monitoring Server address space  
 K\_PD\_HISTCOLL\_DATA\_IN\_TEMS\_STC [1287](#)

If the Agent requires address translation support  
 K\_AGT\_PARTITION\_NAME [1270](#)

If the Agent requires network interface list support  
 K\_AGT\_TCP\_KDEB\_INTERFACELIST [1275](#)

Persistent datastore table space allocation overrides  
 K\_PD\_CYL [1285](#)  
 K\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC [1311](#)

Protocol port numbers for Agent connection to TEMS  
 K\_TEMS\_TCP\_PIPE6\_PORT\_NUM [1295](#), [1296](#)  
 K\_TEMS\_TCP\_PIPE6S\_PORT\_NUM [1295](#)  
 K\_TEMS\_TCP\_PIPE\_PORT\_NUM [1294](#)  
 K\_TEMS\_TCP\_PIPES\_PORT\_NUM [1295](#)  
 K\_TEMS\_TCP\_UDP\_PORT\_NUM [1296](#)

Secondary TEMS TCP/IP information  
 K\_TEMS\_BKUP1\_TCP\_HOST [1290](#)

Secondary TEMS VTAM information  
 K\_TEMS\_BKUP1\_VTAM\_APPL\_LL\_BKR [1291](#)  
 K\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD [1291](#)  
 K\_TEMS\_BKUP1\_VTAM\_NETID [1292](#)

Specify communication protocols preference for TEMS connection  
 K\_AGT\_COMM\_PROTOCOLn [1264](#)

Take Action commands security settings  
 K\_AGT\_PPI\_RECEIVER [1271](#)  
 K\_AGT\_PPI\_SENDER [1271](#)

Values that describe the address space  
 K\_AGT\_CONFIGURATION\_MODE [1264](#)  
 K\_AGT\_STC [1272](#)  
 K\_AGT\_TCP\_STC [1276](#)

Values that describe the address space for the agent and the TEMS  
 K\_AGT\_TEMS\_NAME\_NODEIDD [1277](#)

Values that describe the Primary TEMS the Agent will connect to  
 K\_TEMS\_LOCAL\_CONNECT\_FLAG [1292](#)

OMEGAMON monitoring agents  
 packaging [67](#)

OMEGAMON Persistent datastore table space allocation overrides  
 K\_PD\_CYL [1285](#)  
 K\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC [1311](#)

OMEGAMON Protocol port numbers for Agent connection to TEMS  
 K\_TEMS\_TCP\_PIPE6\_PORT\_NUM [1295](#), [1296](#)  
 K\_TEMS\_TCP\_PIPE6S\_PORT\_NUM [1295](#)  
 K\_TEMS\_TCP\_PIPE\_PORT\_NUM [1294](#)  
 K\_TEMS\_TCP\_PIPES\_PORT\_NUM [1295](#)  
 K\_TEMS\_TCP\_UDP\_PORT\_NUM [1296](#)

OMEGAMON Secondary TEMS TCP/IP information  
 K\_TEMS\_BKUP1\_TCP\_HOST [1290](#)

OMEGAMON Secondary TEMS VTAM information  
 K\_TEMS\_BKUP1\_VTAM\_APPL\_LL\_BKRG [1291](#)  
 K\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD [1291](#)  
 K\_TEMS\_BKUP1\_VTAM\_NETID [1292](#)

OMEGAMON Specify communication protocols preference for TEMS connection  
 K\_AGT\_COMM\_PROTOCOLn [1264](#)

OMEGAMON subsystem [59](#)

OMEGAMON subsystem  
 defining [221](#)

OMEGAMON Take Action commands security settings  
 K\_AGT\_PPI\_RECEIVER [1271](#)  
 K\_AGT\_PPI\_SENDER [1271](#)

OMEGAMON TEMS REST services [1080](#), [1095](#), [1098](#), [1120](#)

OMEGAMON Values that describe the address space  
 K\_AGT\_CONFIGURATION\_MODE [1264](#)  
 K\_AGT\_STC [1272](#)  
 K\_AGT\_TCP\_STC [1276](#)

OMEGAMON Values that describe the address space for the agent and the TEMS  
 K\_AGT\_TEMS\_NAME\_NODEID [1277](#)

OMEGAMON Values that describe the Primary TEMS the Agent will connect to  
 K\_TEMS\_LOCAL\_CONNECT\_FLAG [1292](#)

OMEGAMON variables [1054](#)

OMNIMON base [59](#)

OMNIMON Base [1509](#)  
OMNIMON Base V7.0.0 Interim Feature 1 (APAR OA42127) [895](#)  
OMNIMON Base V7.3.0 (APAR OA46867) [894](#)  
OMVS segment, default [147](#)  
online [1014](#)  
Online Managed Systems Lists [1016](#)  
Only Managed Systems [1014](#), [1014](#)  
opaque ports [152](#)  
Open Services Lifecycle Collaboration Performance Monitoring (OSLC-PM) service provider [57](#)  
open-web-launch-setup-admin.exe [1189](#), [1187](#), [1187](#)  
open-web-launch-setup-user.exe [1189](#), [1187](#), [1187](#)  
openweblaunch.exe [1190](#)  
openweblaunch32.exe [1187](#), [1190](#)  
openweblaunch64.exe [1187](#), [1190](#)  
OPTION parameter [238](#)  
origin node [1061](#), [1064](#)  
Overlay Col ID field [1204](#)  
Overlay Col Off field [1204](#)  
override embed members [471](#)  
override parameters [1437](#), [1441](#), [1442](#), [1443](#), [1441](#), [1442](#), [1443](#), [1444](#), [1445](#), [1446](#), [1446](#), [1444](#), [1445](#)  
override values [417](#)  
overview, parameters [1257](#), [1257](#)  
OWL [1186](#)

## P

PACKAGE action [265](#)  
packaging [67](#)  
    monitoring agents [67](#)  
    OMEGAMON monitoring agents [67](#)  
    tapes [67](#)  
paging [922](#)  
panel  
    keywords [1028](#)  
panel definitions  
    guidelines for constructing [1028](#)  
    popup panel [1027](#)  
    workspace [1024](#)  
panel definitions guidelines [1023](#)  
panels  
    creating [942](#)  
    popup panels [942](#)  
    workspaces  
        customizing [942](#)  
panels definitions  
    about [1023](#)  
    guidelines [1023](#)  
parameter [1311](#)  
parameter library [1323](#)  
parameter names [1258](#)  
parameter, RTE\_SECURITY\_USER\_LOGON [539](#)

parameters [293](#), [293](#), [293](#), [293](#), [293](#), [293](#), [294](#), [294](#), [294](#), [299](#), [299](#), [299](#), [316](#), [316](#), [316](#), [1372](#)  
parameters  
    CMS\_NODEID [134](#)  
    GBL\_DSN\_ACF2\_MACLIB [431](#)  
    GBL\_DSN\_CBC\_SCCNOBJ [1312](#)  
    GBL\_DSN\_CBC\_SCLBSID [1313](#)  
    GBL\_DSN\_CEE\_SCEEBIND [1313](#)  
    GBL\_DSN\_CEE\_SCEEBND2 [1313](#)  
    GBL\_DSN\_CEE\_SCEECPP [1314](#)  
    GBL\_DSN\_CEE\_SCEELIB [1314](#)  
    GBL\_DSN\_CEE\_SCEELKED [1314](#)  
    GBL\_DSN\_CEE\_SCEELKEX [1315](#)  
    GBL\_DSN\_CEE\_SCEEMSGP [1315](#)  
    GBL\_DSN\_CEE\_SCEERUN [1315](#)  
    GBL\_DSN\_CEE\_SCEESPC [1316](#)  
    GBL\_DSN\_CICS\_CTG\_DLL [1316](#)  
    GBL\_DSN\_CICS\_SCTGSID [1316](#)  
    GBL\_DSN\_CICS\_SDFHC370 [1317](#)  
    GBL\_DSN\_CICS\_SDFHLOAD [1317](#)  
    GBL\_DSN\_DB2\_DSNEXIT [1318](#)  
    GBL\_DSN\_DB2\_LOADLIB\_V [1318](#)  
    GBL\_DSN\_DB2\_RUNLIB\_V [1319](#)  
    GBL\_DSN\_DB2\_SDSNLOAD [1319](#)  
    GBL\_DSN\_IMS\_SCEXLINK [1320](#)  
    GBL\_DSN\_IMS\_SFUNLINK [1320](#)  
    GBL\_DSN\_SYS1\_BROADCAST [1321](#)  
    GBL\_DSN\_SYS1\_CSSLIB [1321](#)  
    GBL\_DSN\_SYS1\_HSMLOGY [1322](#)  
    GBL\_DSN\_SYS1\_LINKLIB [1322](#)  
    GBL\_DSN\_SYS1\_MODGEN [1323](#)  
    GBL\_DSN\_SYS1\_SBPXEXEC [1324](#)  
    GBL\_DSN\_TCP\_ETC\_SERVICES [1325](#)  
    GBL\_DSN\_TCP\_SEZACMTX [1326](#)  
    GBL\_DSN\_TCP\_SEZARNT1 [1326](#)  
    GBL\_DSN\_TCP\_SEZATCP [1326](#)  
    GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA\_MFN [1327](#)  
    GBL\_DSN\_WMQ\_SCSQANLE [1327](#)  
    GBL\_DSN\_WMQ\_SCSQAUTH [1328](#)  
    GBL\_DSN\_WMQ\_SCSQLOAD [1328](#)  
    GBL\_HFS\_JAVA\_DIR [1328](#)  
    GBL\_INST\_HILEV [99](#), [431](#), [619](#), [630](#), [639](#), [658](#), [667](#), [677](#), [686](#), [695](#), [704](#), [713](#), [713](#), [713](#), [713](#), [752](#), [761](#), [772](#), [713](#), [791](#), [801](#), [713](#), [858](#)  
    GBL\_SYSDA\_UNIT [99](#), [431](#), [619](#), [630](#), [639](#), [649](#), [658](#), [667](#), [677](#), [686](#), [695](#), [704](#), [713](#), [713](#), [713](#), [713](#), [752](#), [761](#), [772](#), [713](#), [791](#), [801](#), [713](#), [858](#)  
    GBL\_TARGET\_HILEV [99](#), [431](#), [619](#), [630](#), [639](#), [649](#), [658](#), [667](#), [677](#), [686](#), [695](#), [704](#), [713](#), [713](#), [713](#), [713](#), [752](#), [761](#), [772](#), [713](#), [791](#), [801](#), [713](#), [858](#)  
    GBL\_USER\_JCL [96](#), [428](#), [513](#), [616](#), [628](#), [637](#), [646](#), [656](#), [665](#), [674](#), [684](#), [693](#), [702](#), [711](#), [711](#), [711](#), [711](#), [750](#), [759](#), [770](#), [779](#), [789](#), [798](#), [808](#), [855](#)

JOBCARD data [431](#), [619](#), [630](#), [639](#), [649](#), [658](#), [667](#), [677](#),  
[686](#), [695](#), [704](#), [713](#), [713](#), [713](#), [713](#), [752](#), [761](#), [772](#), [713](#),  
[791](#), [801](#), [713](#), [858](#), [868](#)  
 K\_AGT\_AUDIT\_ITM\_DOMAIN [1262](#)  
 K\_AGT\_AUDIT\_MAX\_HIST [1262](#)  
 K\_AGT\_AUDIT\_TRACE [1263](#)  
 K\_AGT\_CONFIGURATION\_MODE [1311](#)  
 K\_AGT\_TEMA\_SDA [1277](#)  
 K\_X\_AGT\_CONFIRM\_SHUTDOWN [1299](#)  
 K\_X\_AGT\_DEBUG\_TRACE [1299](#)  
 K\_X\_AGT\_KDC\_DEBUG [1300](#)  
 K\_X\_AGT\_LGSA\_VERIFY [1301](#)  
 K\_X\_AGT\_LSRPOOL\_BUFFER\_NUM [1302](#)  
 K\_X\_AGT\_LSRPOOL\_BUFSIZEE [1302](#)  
 K\_X\_AGT\_SDUMP\_SVC\_SYS1\_DUMP [1303](#)  
 K\_X\_AGT\_STORAGE\_LIMIT\_EXTEND [1304](#)  
 K\_X\_AGT\_STORAGE\_LIMIT\_PRIMARY [1304](#)  
 K\_X\_AGT\_STORAGE\_RESERVE\_EXT [1305](#)  
 K\_X\_AGT\_STORAGE\_RESERVE\_PRI [1305](#)  
 K\_X\_AGT\_STORAGE\_STGDEBUG [1306](#)  
 K\_X\_AGT\_TASKS\_ATTACHED\_NUM [1307](#)  
 K\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID [1307](#)  
 K\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBKR [1308](#)  
 K\_X\_HUB\_TEMS\_VTAM\_NETID [1308](#)  
 K\_X\_HUB\_VTAM\_APPL\_GLBKR [1308](#)  
 K\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC [1311](#)  
 KDE\_TRANSPORT [151](#), [151](#), [152](#), [1374](#), [1374](#), [1375](#)  
 KDS\_AUDIT\_ITM\_DOMAIN [1372](#)  
 KDS\_AUDIT\_MAX\_HIST [1373](#)  
 KDS\_AUDIT\_TRACE [1373](#)  
 KDS\_HUB\_TCP\_HOST [1374](#)  
 KDS\_HUB\_TCP\_PIPE6\_PORT\_NUM [1374](#)  
 KDS\_HUB\_TCP\_PIPE6S\_PORT\_NUM [1375](#)  
 KDS\_HUB\_TCP\_PIPE\_PORT\_NUM [1374](#)  
 KDS\_HUB\_TCP\_PIPES\_PORT\_NUM [1375](#)  
 KDS\_HUB\_TCP\_UDP6\_PORT\_NUM [1376](#)  
 KDS\_HUB\_TCP\_UDP\_PORT\_NUM [1376](#)  
 KDS\_HUB\_TEMS\_HA\_TYPE [1377](#)  
 KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER [1377](#)  
 KDS\_HUB\_VTAM\_NETID [1378](#)  
 KDS\_KMS\_SDA [1378](#)  
 KDS\_MIG\_TAPE\_HILEV [1380](#)  
 KDS\_MIG\_TAPE\_UNIT [1380](#)  
 KDS\_MIG\_TAPE\_VOL [1381](#)  
 KDS\_MIG\_VSAM\_HILEV [1381](#)  
 KDS\_PA [1381](#)  
 KDS\_PA\_PARTITION\_ADDRESS [1382](#)  
 KDS\_PA\_PARTITION\_NAME [1382](#)  
 KDS\_PA\_ROW [1383](#)  
 KDS\_PD\_CYL [1383](#)  
 KDS\_PH [1385](#)  
 KDS\_PH\_ROW [1386](#)  
 KDS\_PH\_TEMS\_ALIAS\_NAME [1386](#)  
 KDS\_PH\_TEMS\_COMM\_PROTOCOL1 [1387](#)  
 KDS\_PH\_TEMS\_KSH\_SECURE [1387](#)  
 KDS\_PH\_TEMS\_RTE [1387](#)  
 KDS\_PH\_TEMS\_SYSV\_FLAG [1388](#)  
 KDS\_PH\_TEMS\_TCP\_PORT\_NUM [1388](#)  
 KDS\_PH\_TEMS\_USER\_QUERY [1389](#)  
 KDS\_PH\_TEMS\_USER\_UPDATE [1389](#)  
 KDS\_PH\_TEMS\_VTAM\_APPL\_GLB\_BROKER [1390](#)  
 KDS\_PH\_TEMS\_VTAM\_LU62\_DLOGMOD [1390](#)  
 KDS\_PH\_TEMS\_VTAM\_NETID [1390](#)  
 KDS\_PHnn\_TEMS\_TCP\_HOST [1388](#)  
 KDS\_PPI\_RECEIVER [1391](#)  
 KDS\_PPI\_SENDER [1391](#)  
 KDS\_PU [1392](#)  
 KDS\_PU\_ROW [1392](#)  
 KDS\_PU\_TEMS\_USER\_ID [1393](#)  
 KDS\_PU\_TEMS\_USER\_QUERY [1393](#)  
 KDS\_PU\_TEMS\_USER\_UPDATE [1393](#)  
 KDS\_TEMA\_SDA [1394](#)  
 KDS\_TEMS\_COMM\_ADDRESS\_XLAT [1395](#)  
 KDS\_TEMS\_DRA\_FLAG [1397](#)  
 KDS\_TEMS{EIF\_BUFFER\_EVENT\_MAXSIZE [1397](#)  
 KDS\_TEMS{EIF\_DISABLE\_TEC\_EMITTER [1398](#)  
 KDS\_TEMS{EIF\_EVENT\_LISTENER [1398](#)  
 KDS\_TEMS{EIF\_FLAG [1399](#)  
 KDS\_TEMS{EIF\_HOST [1399](#)  
 KDS\_TEMS{EIF\_PORT\_NUM [1400](#)  
 KDS\_TEMS\_FLUSH\_LSR\_BUFRR\_INT\_HR [1400](#)  
 KDS\_TEMS\_FLUSH\_LSR\_BUFRR\_INT\_MIN [1401](#)  
 KDS\_TEMS\_HA\_EXCL\_LIST [1401](#)  
 KDS\_TEMS\_HA\_TYPE [431](#), [1402](#)  
 KDS\_TEMS\_HTTP\_PORT\_NUM [1402](#)  
 KDS\_TEMS\_ICU\_LANGUAGE\_LOCALE [1403](#)  
 KDS\_TEMS\_KDC\_DEBUG [1404](#)  
 KDS\_TEMS\_KGL\_WTO [1405](#)  
 KDS\_TEMS\_KLX\_TCP\_TOLERATERECYCLE [1406](#)  
 KDS\_TEMS\_PARTITION\_NAME [1406](#)  
 KDS\_TEMS\_SECURITY\_KAES256\_ENCKEY [1407](#)  
 KDS\_TEMS\_SECURITY\_KDS\_VALIDATE [1407](#)  
 KDS\_TEMS\_SOAP\_SERVER\_FLAG [1408](#)  
 KDS\_TEMS\_STC [1408](#)  
 KDS\_TEMS\_STORAGE\_DETAIL\_INT\_HR [1408](#)  
 KDS\_TEMS\_STORAGE\_DETAIL\_INT\_MIN [1409](#)  
 KDS\_TEMS\_STORAGE\_DETAIL\_LOG\_FLAG [1409](#)  
 KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND [1410](#)  
 KDS\_TEMS\_STORAGE\_LIMIT\_PRIMARY [1410](#)  
 KDS\_TEMS\_STORAGE\_MINIMUM\_EXTEND [1411](#)  
 KDS\_TEMS\_TCP\_HOST [1412](#)  
 KDS\_TEMS\_TCP\_KDEB\_INTERFACELIST [1412](#)  
 KDS\_TEMS\_TCP\_PIPE6\_PORT\_NUM [1414](#)  
 KDS\_TEMS\_TCP\_PIPE6S\_PORT\_NUM [1414](#)  
 KDS\_TEMS\_TCP\_PIPE\_PORT\_NUM [1413](#)  
 KDS\_TEMS\_TCP\_PIPES\_PORT\_NUM [1415](#)

KDS\_TEMS\_TCP\_STC [1416](#)  
KDS\_TEMS\_TCP\_UDP6\_PORT\_NUM [1417](#)  
KDS\_TEMS\_TCP\_UDP\_PORT\_NUM [1416](#)  
KDS\_TEMS\_TYPE [431](#), [1417](#)  
KDS\_TEMS\_VTAM\_APPL\_GLB\_BROKER [1418](#)  
KDS\_TEMS\_VTAM\_APPL\_KDS\_VTAMID [1418](#)  
KDS\_TEMS\_VTAM\_APPL\_LLB\_BROKER [1419](#)  
KDS\_TEMS\_VTAM\_APPL\_PREFIX [1419](#)  
KDS\_TEMS\_VTAM\_LU62\_DLOGMOD [1419](#)  
KDS\_TEMS\_VTAM\_LU62\_MODETAB [1420](#)  
KDS\_TEMS\_VTAM\_NETID [1420](#)  
KDS\_TEMS\_VTAM\_NODE [1420](#)  
KDS\_X\_HUB\_BKUP1\_TCP\_HOST [1421](#)  
KDS\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID [1421](#)  
KDS\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBKR [1422](#)  
KDS\_X\_HUB\_CMS\_FTO\_FLAG [1422](#)  
KDS\_X\_KDCFC\_RXLIMIT [1423](#)  
KDS\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS [1424](#)  
KDS\_X\_KDE\_TRANSPORT\_OPTIONS [1424](#)  
KDS\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS [1425](#)  
KDS\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG [1425](#)  
KDS\_X\_TEMS\_CONFIRM\_SHUTDOWN [1426](#)  
KDS\_X\_TEMS\_DEBUG\_TRACE [1426](#)  
KDS\_X\_TEMS\_EIF\_BUFVTPATH [1428](#)  
KDS\_X\_TEMS\_EIF\_BUFFEREVENTS [1427](#)  
KDS\_X\_TEMS\_EIF\_FILTER\_ATTR1 [1428](#)  
KDS\_X\_TEMS\_EIF\_FILTER\_CLASS1 [1428](#)  
KDS\_X\_TEMS\_EIF\_FILTERMODE [1429](#)  
KDS\_X\_TEMS\_FRAME\_STACK\_SIZE [1429](#)  
KDS\_X\_TEMS\_KDSSTRT1\_DELAY\_INT [1430](#)  
KDS\_X\_TEMS\_LGSA\_VERIFY [1430](#)  
KDS\_X\_TEMS\_LOGBLOCK\_RKLVLOG\_SIZE [1430](#)  
KDS\_X\_TEMS\_LOGBUFS\_RKLVLOG\_BUFSZ [1431](#)  
KDS\_X\_TEMS\_LSRPOOL\_BUFFER\_NUM [1431](#)  
KDS\_X\_TEMS\_LSRPOOL\_BUFSIZE [1432](#)  
KDS\_X\_TEMS\_LSRSTRNO\_CONCURRENT [1433](#)  
KDS\_X\_TEMS\_SDUMP\_SVC\_SYS1\_DUMP [1433](#)  
KDS\_X\_TEMS\_STORAGE\_RESERVE\_PRI [1434](#)  
KDS\_X\_TEMS\_STORAGE\_STGDEBUG [1435](#)  
KDS\_X\_TEMS\_TASKS\_ATTACHED\_NUM [1436](#)  
KDS\_X\_TEMS\_WTO [1436](#)  
KOB\_TOM\_STC [1437](#)  
KOB\_TOM\_VTAM\_APPL\_LOGON [1438](#)  
KOB\_TOM\_VTAM\_NODE [1439](#)  
LIMIT [1410](#)  
RTE\_CANSCN\_STC [1332](#)  
RTE\_CANSETE\_STC [1332](#)  
RTE\_DESCRIPTION [431](#)  
RTE\_HILEV [431](#)  
RTE\_KCNDLSSI\_IEFSSN00\_FORMAT [1336](#)  
RTE\_KCNSTROO\_SSID [1337](#)  
RTE\_KCNSTROO\_WTO [1337](#)  
RTE\_KCNSTROO\_XCFGROUP [1338](#)

RTE\_NAME [96](#), [428](#), [513](#), [616](#), [628](#), [637](#), [646](#), [656](#), [665](#),  
[674](#), [684](#), [693](#), [702](#), [711](#), [711](#), [711](#), [711](#), [750](#), [759](#), [770](#),  
[779](#), [789](#), [798](#), [808](#), [855](#)  
RTE\_PDS\_BATCHINIT\_FLAG [1340](#)  
RTE\_PLIB\_HILEV [96](#), [428](#), [513](#), [616](#), [628](#), [637](#), [646](#),  
[656](#), [665](#), [674](#), [684](#), [693](#), [702](#), [711](#), [711](#), [711](#), [711](#), [750](#),  
[759](#), [770](#), [779](#), [789](#), [798](#), [808](#), [855](#)  
RTE\_SECURITY\_CLASS [431](#)  
RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG [431](#)  
RTE\_SECURITY\_USER\_LOGON [431](#)  
RTE\_SHARE [431](#)  
RTE\_SMS\_MGMTCLAS [431](#)  
RTE\_SMS\_PDSE\_FLAG [431](#)  
RTE\_SMS\_STORCLAS [431](#), [431](#)  
RTE\_SMS\_UNIT [431](#)  
RTE\_SMS\_VOLUME [431](#)  
RTE\_SMS\_VSAM\_MGMTCLAS [431](#)  
RTE\_SMS\_VSAM\_VOLUME [431](#)  
RTE\_STC\_PREFIX [431](#)  
RTE\_TEMS\_CONFIGURED\_FLAG [431](#)  
RTE\_TEMS\_NAME\_NODEID [431](#)  
RTE\_TYPE [431](#)  
RTE\_VSAM\_HILEV [431](#), [431](#)  
RTE\_VTAM\_APPLID\_PREFIX [431](#)  
RTE\_X\_HILEV\_SHARING [431](#)  
RTE\_X\_KCNDLSSI\_INITPARM\_FLAG [1364](#)  
RTE\_X\_KCNSTROO\_PLEXCOLLECT [1365](#)  
RTE\_X\_KCNSTROO\_REFRESH [1366](#)  
RTE\_X\_SECURITY\_DATA\_ABOVE [1366](#)  
RTE\_X\_SECURITY\_EXIT\_LIB [431](#), [1367](#)

Parameters [278](#)

#### Parameters

different default values [292](#)  
for communication between servers [330](#)  
initial RTE [279](#)  
KFJ\_EMBEDS\_LIB [337](#)  
KFJ\_SYSNAME [314](#)  
KFJ\_USE\_EMBEDS [337](#)  
significant default values [291](#)  
spare parm tables [318](#)  
SYSNAME [314](#)  
use of variables [334](#)  
validation report [275](#)

parameters covered in this guide [1260](#)

parameters eligible to use symbolics [1247](#)

parameters eligible to use variables [1247](#)

parameters ineligible to use symbolics [1248](#)

parameters ineligible to use variables [1248](#)

parameters, overview [1257](#), [1257](#)

PARM\_BATCH batch parameter [1322](#)

#### PARMGEN

complete set up [475](#)

configuring a [457](#)

configuring an OMEGAMON enhanced 3270 user interface [466](#)  
 configuring OMEGAMON monitoring agents [467](#)  
 enable APF-authorization statements (Optional) [453](#)  
 enable self-describing agent feature [461](#)  
 maintenance scenarios [818](#), [818](#), [839](#)  
**maintenance scenarios**  
   adding a new product to an existing RTE [209](#)  
   base libraries for the sharing RTE, refreshing [490](#)  
   configuring a newly added product [209](#)  
   disabling configuration of a deleted product [852](#)  
   effect of changed parameters [844](#)  
   KOBSUPDT security exits [492](#)  
   overriding the default storage limit [498](#)  
   refreshing read-only base libraries [490](#)  
   retaining KOBSUPDT security exits updates [492](#)  
   storage limit, increasing the default [498](#)  
   upgrading a product to an existing runtime environment [206](#)  
   upgrading an OMEGAMON to a production RTE [206](#)  
 scenarios [612](#)  
**scenarios**  
   full runtime environment [646](#)  
   PGN06 [876](#)  
 submit batch jobs [475](#)  
 SYSTCPD DD statement [452](#)  
 update global parameters [468](#)  
 update global VTAM major node [453](#)  
 update TCP/IP port values [452](#)  
 update the HFS/zFS z/OS UNIX directory [453](#)  
 update user prolog (optional) [450](#)  
 upgrade scenarios [205](#)  
 verify products [451](#)  
 PARMGEN how-to instructions [612](#)  
 PARMGEN jobs, KCIJV\* [1246](#)  
**PARMGEN parameter names**  
   DS\_TEMS\_VTAM\_APPL\_LL\_BROKER [1419](#)  
   GBL\_DSN\_CBC\_SCCNOBJ [1312](#)  
   GBL\_DSN\_CBC\_SCLBSID [1313](#)  
   GBL\_DSN\_CEE\_SCEEBIND [1313](#)  
   GBL\_DSN\_CEE\_SCEEBND2 [1313](#)  
   GBL\_DSN\_CEE\_SCEECPP [1314](#)  
   GBL\_DSN\_CEE\_SCEELIB [1314](#)  
   GBL\_DSN\_CEE\_SCEELKED [1314](#)  
   GBL\_DSN\_CEE\_SCEELKEX [1315](#)  
   GBL\_DSN\_CEE\_SCEEMSGP [1315](#)  
   GBL\_DSN\_CEE\_SCEERUN [1315](#)  
   GBL\_DSN\_CEE\_SCEESPC [1316](#)  
   GBL\_DSN\_CICS\_CTG\_DLL [1316](#)  
   GBL\_DSN\_CICS\_SCTGSID [1316](#)  
   GBL\_DSN\_CICS\_SDFHC370 [1317](#)  
   GBL\_DSN\_CICS\_SDFHLOAD [1317](#)  
   GBL\_DSN\_CSF\_SCSFMODE0 [280](#)  
   GBL\_DSN\_DB2\_DSNEXT [1318](#)  
   GBL\_DSN\_DB2\_LOADLIB\_V [1318](#)  
   GBL\_DSN\_DB2\_RUNLIB\_V [1319](#)  
   GBL\_DSN\_DB2\_SDSNLOAD [1319](#)  
   GBL\_DSN\_IMS\_SCEXLINK [1320](#)  
   GBL\_DSN\_IMS\_SFUNLINK [1320](#)  
   GBL\_DSN\_ISP\_SISPLOAD [1320](#)  
   GBL\_DSN\_NETVIEW\_CNMLINK [1321](#)  
   GBL\_DSN\_SYS1\_BROADCAST [1321](#)  
   GBL\_DSN\_SYS1\_CSSLIB [1321](#)  
   GBL\_DSN\_SYS1\_HSMLOGY [1322](#)  
   GBL\_DSN\_SYS1\_LINKLIB [1322](#)  
   GBL\_DSN\_SYS1\_MACLIB [1322](#)  
   GBL\_DSN\_SYS1\_MODGEN [1323](#)  
   GBL\_DSN\_SYS1\_PARMLIB [1323](#)  
   GBL\_DSN\_SYS1\_PROCLIB [1323](#)  
   GBL\_DSN\_SYS1\_SBLSCLI0 [1324](#)  
   GBL\_DSN\_SYS1\_SBPXEXEC [1324](#)  
   GBL\_DSN\_SYS1\_SISTMAC1 [1324](#)  
   GBL\_DSN\_SYS1\_VTAMLIB [1325](#)  
   GBL\_DSN\_SYS1\_VTAMLST [1325](#)  
   GBL\_DSN\_TCP\_ETC\_SERVICES [1325](#)  
   GBL\_DSN\_TCP\_SEZACMTX [1326](#)  
   GBL\_DSN\_TCP\_SEZARNT1 [1326](#)  
   GBL\_DSN\_TCP\_SEZATCP [1326](#)  
   GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA [1327](#)  
   GBL\_DSN\_TCP\_SYSTCPD\_TCPDATA\_MFN [1327](#)  
   GBL\_DSN\_WMQ\_SCSQANLE [1327](#)  
   GBL\_DSN\_WMQ\_SCSQAUTH [1328](#)  
   GBL\_DSN\_WMQ\_SCSQLOAD [1328](#)  
   GBL\_HFS\_JAVA\_DIR [1328](#)  
   GBL\_INST\_HILEV [1329](#)  
   GBL\_TARGET\_HILEV [1330](#)  
   K\_AGT\_AUDIT\_ITM\_DOMAIN [1262](#)  
   K\_AGT\_AUDIT\_MAX\_HIST [1262](#)  
   K\_AGT\_AUDIT\_TRACE [1263](#)  
   K\_AGT\_COMM\_PROTOCOLn [1264](#)  
   K\_AGT\_CONFIGURATION\_MODE [1264](#), [1311](#)  
   K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_HR [1265](#)  
   K\_AGT\_FLUSH\_LSR\_BUFR\_INT\_MIN [1266](#)  
   K\_AGT\_ICU\_LANGUAGE\_LOCALE [1267](#)  
   K\_AGT\_KGL\_WTO [1268](#)  
   K\_AGT\_KLX\_TCP\_TOLERATERECYCLE [1269](#)  
   K\_AGT\_PARTITION\_NAME [1270](#)  
   K\_AGT\_PPI\_RECEIVER [1271](#)  
   K\_AGT\_PPI\_SENDER [1271](#)  
   K\_AGT\_STC [1272](#)  
   K\_AGT\_STORAGE\_DETAIL\_INT\_HR [1273](#)  
   K\_AGT\_STORAGE\_DETAIL\_INT\_MIN [1274](#)  
   K\_AGT\_STORAGE\_MINIMUM\_EXTEND [1274](#)  
   K\_AGT\_TCP\_STC [1276](#)  
   K\_AGT\_TEMA\_SDA [1277](#)  
   K\_AGT\_TEMS\_NAME\_NODEID [1277](#)  
   K\_AGT\_VIRTUAL\_IP\_ADDRESS [1278](#)

K\_AGT\_VTAM\_APPL\_AA 1279  
 K\_AGT\_VTAM\_APPL\_KINVPO 1279  
 K\_AGT\_VTAM\_APPL\_NCS 1280  
 K\_AGT\_VTAM\_APPL\_OPERATOR 1280  
 K\_AGT\_VTAM\_APPL\_PREFIX 1281  
 K\_AGT\_VTAM\_NODE 1282  
 K\_AGT\_WTO\_MSG 1282  
 K\_PD\_CYL 1285  
 K\_TEMS\_BKUP1\_VTAM\_APPL\_LL\_BKR 1291  
 K\_TEMS\_BKUP1\_VTAM\_LU62\_DLOGMOD 1291  
 K\_TEMS\_BKUP1\_VTAM\_NETID 1292  
 K\_TEMS\_LOCAL\_CONNECT\_FLAG 1292  
 K\_TEMS\_VTAM\_APPL\_LL\_BROKER 1297  
 K\_TEMS\_VTAM\_LU62\_DLOGMOD 1297  
 K\_TEMS\_VTAM\_LU62\_MODETAB 1298  
 K\_TEMS\_VTAM\_NETID 1298  
 K\_X\_AGT\_CONFIRM\_SHUTDOWN 1299  
 K\_X\_AGT\_DEBUG\_TRACE 1299  
 K\_X\_AGT\_LGSA\_VERIFY 1301  
 K\_X\_AGT\_LSRPOOL\_BUFFER\_NUM 1302  
 K\_X\_AGT\_LSRPOOL\_BUFSIZEE 1302  
 K\_X\_AGT\_SDUMP\_SVC\_SYS1\_DUMP 1303  
 K\_X\_AGT\_STORAGE\_LIMIT\_EXTEND 1304  
 K\_X\_AGT\_STORAGE\_LIMIT\_PRIMARY 1304  
 K\_X\_AGT\_STORAGE\_RESERVE\_EXT 1305  
 K\_X\_AGT\_STORAGE\_RESERVE\_PRI 1305  
 K\_X\_AGT\_STORAGE\_STGDEBUG 1306  
 K\_X\_AGT\_TASKS\_ATTACHED\_NUM 1307  
 K\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID 1307  
 K\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLB\_BKR 1308  
 K\_X\_HUB\_TEMS\_VTAM\_NETID 1308  
 K\_X\_HUB\_VTAM\_APPL\_GLB\_BKR 1308  
 K\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS 1309  
 K\_X\_KDE\_TRANSPORT\_OPTIONS 1310  
 K\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS 1310  
 K\_X\_PD\_HISTCOLL\_DATA\_AGT\_STC 1311, 1311  
 KAG\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG 1261  
 KDS\_AUDIT\_ITM\_DOMAIN 1372  
 KDS\_AUDIT\_MAX\_HIST 1373  
 KDS\_AUDIT\_TRACE 1373  
 KDS\_HUB\_TEMS\_HA\_TYPE 1377  
 KDS\_HUB\_VTAM\_APPL\_GLB\_BROKER 1377  
 KDS\_HUB\_VTAM\_NETID 1378  
 KDS\_KMS\_SDA 1378  
 KDS\_MIG\_TAPE\_HILEV 1380  
 KDS\_MIG\_TAPE\_UNIT 1380  
 KDS\_MIG\_TAPE\_VOL 1381  
 KDS\_MIG\_VSAM\_HILEV 1381  
 KDS\_PA 1381  
 KDS\_PA\_PARTITION\_ADDRESS 1382  
 KDS\_PA\_PARTITION\_NAME 1382  
 KDS\_PA\_ROW 1383  
 KDS\_PD\_CYL 1383  
 KDS\_PH 1385  
 KDS\_PH\_ROW 1386  
 KDS\_PH\_TEMS\_ALIAS\_NAME 1386  
 KDS\_PH\_TEMS\_COMM\_PROTOCOL1 1387  
 KDS\_PH\_TEMS\_KSH\_SECURE 1387  
 KDS\_PH\_TEMS\_RTE 1387  
 KDS\_PH\_TEMS\_SYSV\_FLAG 1388  
 KDS\_PH\_TEMS\_TCP\_PORT\_NUM 1388  
 KDS\_PH\_TEMS\_USER\_QUERY 1389  
 KDS\_PH\_TEMS\_USER\_UPDATE 1389  
 KDS\_PH\_TEMS\_VTAM\_APPL\_GLB\_BROKER 1390  
 KDS\_PH\_TEMS\_VTAM\_LU62\_DLOGMOD 1390  
 KDS\_PH\_TEMS\_VTAM\_NETID 1390  
 KDS\_PPI\_RECEIVER 1391  
 KDS\_PPI\_SENDER 1391  
 KDS\_PU 1392  
 KDS\_PU\_ROW 1392  
 KDS\_PU\_TEMS\_USER\_ID 1393  
 KDS\_PU\_TEMS\_USER\_QUERY 1393  
 KDS\_PU\_TEMS\_USER\_UPDATE 1393  
 KDS\_SAFAPPL 1394  
 KDS\_TEMA\_SDA 1394  
 KDS\_TEMS\_COMM\_ADDRESS\_XLAT 1395  
 KDS\_TEMS\_COMM\_PROTOCOL 1395  
 KDS\_TEMS\_DRA\_FLAG 1397  
 KDS\_TEMS{EIF\_BUFFER\_EVENT\_MAXSIZE 1397  
 KDS\_TEMS{EIF\_DISABLE\_TEC\_EMITTER 1398  
 KDS\_TEMS{EIF\_EVENT\_LISTENER 1398  
 KDS\_TEMS{EIF\_FLAG 1399  
 KDS\_TEMS{EIF\_PORT\_NUM 1400  
 KDS\_TEMS\_FLUSH\_LSR\_BUF\_INT\_HR 1400  
 KDS\_TEMS\_FLUSH\_LSR\_BUF\_INT\_MIN 1401  
 KDS\_TEMS\_HA\_EXCL\_LIST 1401  
 KDS\_TEMS\_ICU\_LANGUAGE\_LOCALE 1403  
 KDS\_TEMS\_KDC\_DEBUG 1404  
 KDS\_TEMS\_KGL\_WTO 1405  
 KDS\_TEMS\_KLX\_TCP\_TOLERATERECYCLE 1406  
 KDS\_TEMS\_PARTITION\_NAME 1406  
 KDS\_TEMS\_SECURITY\_KAES256\_ENCKEY 1407  
 KDS\_TEMS\_SOAP\_SERVER\_FLAG 1408  
 KDS\_TEMS\_STC 1408  
 KDS\_TEMS\_STORAGE\_DETAIL\_INT\_HR 1408  
 KDS\_TEMS\_STORAGE\_DETAIL\_INT\_MIN 1409  
 KDS\_TEMS\_STORAGE\_DETAIL\_LOG\_FLAG 1409  
 KDS\_TEMS\_STORAGE\_LIMIT\_EXTEND 1410  
 KDS\_TEMS\_STORAGE\_LIMIT\_PRIMARY 1410  
 KDS\_TEMS\_TCP\_STC 1416  
 KDS\_TEMS\_TCP\_UDP6\_PORT\_NUM 1417  
 KDS\_TEMS\_VTAM\_APPL\_GLB\_BROKER 1418  
 KDS\_TEMS\_VTAM\_APPL\_KDS\_VTAMID 1418  
 KDS\_TEMS\_VTAM\_APPL\_PREFIX 1419  
 KDS\_TEMS\_VTAM\_LU62\_DLOGMOD 1419  
 KDS\_TEMS\_VTAM\_LU62\_MODETAB 1420

KDS\_TEMS\_VTAM\_NETID 1420  
 KDS\_TEMS\_VTAM\_NODE 1420  
 KDS\_X\_HUB\_BKUP1\_TEMS\_VTAM\_NETID 1421  
 KDS\_X\_HUB\_BKUP1\_VTAM\_APPL\_GLBKBR 1422  
 KDS\_X\_HUB\_CMS\_FTO\_FLAG 1422  
 KDS\_X\_KDCFC\_RXLIMIT 1423  
 KDS\_X\_KDE\_TRANSPORT\_HTTP\_OPTIONS 1424  
 KDS\_X\_KDE\_TRANSPORT\_OPTIONS 1424  
 KDS\_X\_KDE\_TRANSPORT\_POOL\_OPTIONS 1425  
 KDS\_X\_STC\_SYSTCPD\_INCLUDE\_FLAG 1425  
 KDS\_X\_TEMS\_CONFIRM\_SHUTDOWN 1426  
 KDS\_X\_TEMS\_DEBUG\_TRACE 1426  
 KDS\_X\_TEMS\_EIF\_FILTERMODE 1429  
 KDS\_X\_TEMS\_FRAME\_STACK\_SIZE 1429  
 KDS\_X\_TEMS\_KDSSTRT1\_DELAY\_INT 1430  
 KDS\_X\_TEMS\_LGSA\_VERIFY 1430  
 KDS\_X\_TEMS\_LOGBLOCK\_RKLVLOG\_SIZE 1430  
 KDS\_X\_TEMS\_LOGBUFS\_RKLVLOG\_BUFSZ 1431  
 KDS\_X\_TEMS\_LSRPOOL\_BUFFER\_NUMn 1431  
 KDS\_X\_TEMS\_LSRPOOL\_BUFSIZEn 1432  
 KDS\_X\_TEMS\_LSRSTRNO\_CONCURRENT 1433  
 KDS\_X\_TEMS\_SDUMP\_SVC\_SYS1\_DUMP 1433  
 KDS\_X\_TEMS\_STORAGE\_RESERVE\_PRI 1434  
 KDS\_X\_TEMS\_STORAGE\_STGDEBUG 1435  
 KDS\_X\_TEMS\_TASKS\_ATTACHED\_NUM 1436  
 KDS\_X\_TEMS\_WTO 1436  
 KOB\_MT\_ENABLE 1437  
 KOB\_SAF\_ACTION\_CLASS\_NAME 1441  
 KOB\_SAF\_LOGON\_CLASS\_NAME 1442  
 KOB\_SAF\_LOGON\_RESOURCE\_PREFIX 1443  
 KOB\_SAF\_QUERY\_CLASS\_NAME 1443  
 KOB\_SITST\_EXCLUDE\_HUBS 1444  
 KOB\_SITST\_HISTORY\_RANGE 1444  
 KOB\_SITST\_HISTORY\_SLOTS 1445  
 KOB\_SITST\_INCLUDE\_HUBS 1445  
 KOB\_SITST\_RECENT\_SLOTS 1446  
 KOB\_SITST\_SAMPLE\_MINUTES 1446  
 KOB\_TOM\_STC 1437  
 KOB\_TOM\_VTAM\_APPL\_LOGON 1438  
 KOB\_TOM\_VTAM\_NODE 1439  
 Kpp\_PDS\_FILE\_COUNT 1288  
 PK\_X\_AGT\_KDC\_DEBUG 1300  
 RTE\_BASE\_NAME 1332  
 RTE\_CANSCN\_STC 1332  
 RTE\_CANSETE\_STC 1332  
 RTE\_DEBUG\_SYSOUT 1334  
 RTE\_DESCRIPTION 1334  
 RTE\_HILEV 1334  
 RTE\_KCNDLSSI\_IEFSSN00\_FORMAT 1336  
 RTE\_KCNSTR00\_SSID 1337  
 RTE\_KCNSTR00\_WTO 1337  
 RTE\_KCNSTR00\_XCFGROUP 1338  
 RTE\_LOAD\_OPTIMIZE 1338  
 RTE\_LOAD\_SHARED\_LIBS 1339  
 RTE\_LOG\_SYSOUT 1339  
 RTE\_NAME 1340  
 RTE\_PDS\_BACKUP\_FLAG 1340  
 RTE\_PDS\_BATCHINIT\_FLAG 1340  
 RTE\_PDS\_EXPORT\_FLAG 1341  
 RTE\_PDS\_EXTRACT\_FLAG 1342  
 RTE\_PDS\_HILEV 1342  
 RTE\_PDS\_KPDPROC\_PREFIX 1342  
 RTE\_PDS\_SMS\_MGMTCLAS 1343  
 RTE\_PDS\_SMS\_STORCLAS 1343  
 RTE\_PDS\_SMS\_UNIT 1343  
 RTE\_PDS\_SMS\_VOLUME 1343  
 RTE\_REMOTE\_LPAR\_FLAG 1346  
 RTE\_SECURITY\_CLASS 286  
 RTE\_SECURITY\_USER\_LOGON 1348  
 RTE\_SHARE 1349  
 RTE\_SMS\_MGMTCLAS 1350  
 RTE\_SMS\_PDSE\_FLAG 1350  
 RTE\_SMS\_STORCLAS 1350  
 RTE\_SMS\_UNIT 1351  
 RTE\_SMS\_VSAM\_MGMTCLAS 1351  
 RTE\_SMS\_VSAM\_STORCLAS 1351  
 RTE\_STC\_PREFIX 1352, 1372  
 RTE\_SYSV\_BASE\_ALIAS 1352  
 RTE\_SYSV\_NAME 1353  
 RTE\_SYSV\_VTAM\_NETID 1354  
 RTE\_TEMS\_CONFIGURED\_FLAG 1355  
 RTE\_TN3270\_DXL\_HOSTADDRESS 1357  
 RTE\_TN3270\_DXL\_LUGROUP 1357  
 RTE\_TN3270\_DXL\_TN3270PORT 1357  
 RTE\_TYPE 1358  
 RTE\_USERMODS\_FLAG 1359  
 RTE\_USS\_RTEDIR 1360  
 RTE\_VSAM\_HILEV 1362  
 RTE\_VTAM\_APPLID\_PREFIX 1362  
 RTE\_VTAM\_GBL\_MAJOR\_NODE 1362  
 RTE\_VTAM\_LU62\_DLOGMOD 1363  
 RTE\_VTAM\_LU62\_MODETAB 1363  
 RTE\_VTAM\_NETID 1363  
 RTE\_X\_KCNDLSSI\_INITPARM\_FLAG 1364  
 RTE\_X\_KCNSTR00\_PLEXCOLLECT 1365  
 RTE\_X\_KCNSTR00\_REFRESH 1366  
 RTE\_X\_SECURITY\_DATA\_ABOVE 1366  
 RTE\_X\_SECURITY\_EXIT\_LIB 1367  
**PARMGEN parameters**  
 KFJ\_LOCAL\_HILEV 301  
 KFJ\_LOCAL\_PDS\_HILEV 301  
 KFJ\_LOCAL\_SMS\_MGMTCLAS 302  
 KFJ\_LOCAL\_SMS\_STORCLAS 302  
 KFJ\_LOCAL\_SMS\_UNIT 303  
 KFJ\_LOCAL\_SMS\_VOLUME 303  
 KFJ\_LOCAL\_SMS\_VSAM\_MGMTCLAS 303  
 KFJ\_LOCAL\_SMS\_VSAM\_STORCLAS 304

- KFJ\_LOCAL\_SMS\_VSAM\_VOLUME [304](#)
- KFJ\_LOCAL\_TARGET\_HILEV [304](#)
- KFJ\_LOCAL\_USS\_RTDIR [304](#)
- KFJ\_LOCAL\_VSAM\_HILEV [305](#)
- KFJ\_PACK\_DATACLAS [306](#)
- KFJ\_PACK\_MGMTCLAS [307](#)
- KFJ\_PACK\_STORCLAS [307](#)
- KFJ\_PACK\_TERSE [308](#)
- KFJ\_PACK\_UNIT [308](#)
- KFJ\_PACK\_VOLUME [308](#)
- RTE\_PLIB\_HILEV [1345](#)
- PARMGEN user interface [414](#)
- PARTIALCOLS keyword [1042](#)
- Partition address field [1382](#)
- Partition name field [1270](#), [1382](#), [1406](#)
- partitions [149](#)
- passphrase [287](#), [1509](#)
- password encryption [280](#)
- password phrase [287](#)
- passwords**
  - authentication, configuring [159](#)
  - encryption [543](#)
  - NAM SET statements [542](#)
- PATH environment variable [137](#)
- PDFs [10](#)
- PDPROC prefix [1196](#)
- PDS mode [1074](#), [1068](#)
- PDS V2 [1222](#)
- PDSE field [1350](#)
- PDSLOG SYSOUT [1201](#)
- performance, effect of fragmentation [122](#)
- persistent data store**
  - PDS V2 [1225](#), [1224](#), [1225](#)
  - resizing files [1222](#)
- persistent datastore [456](#)
- pervasive encryption [1239](#)
- phased upgrade [195](#)
- piped protocols**
  - firewall support [148](#)
  - limitations [147](#)
- platforms [131](#)
- plug-in issues [1155](#)
- policies**
  - predefined [1148](#)
- POOL option [151](#), [152](#)
- popup panel definitions [1027](#)
- Port number (IP.PIPE for IPV6) field [1295](#), [1414](#)
- Port number (IP.PIPE) field [1294](#), [1413](#)
- Port number (IP.UDP) field [1296](#), [1416](#)
- Port number (IP6.UDP) field [1296](#), [1417](#)
- Port number (Secure IP.PIPE for IPV6) field [1295](#), [1414](#)
- Port number (Secure IP.PIPE) field [1295](#), [1415](#)
- Port number field [289](#), [1357](#)
- port numbers**
  - algorithm [151](#)

- allocating [151](#)
  - assigning [150](#), [151](#)
  - changing [151](#), [151](#), [151](#)
  - COUNT option [151](#)
  - default [150](#)
  - POOL option [151](#)
  - range [152](#)
  - reserving [150](#), [151](#)
  - SKIP option [151](#)
- ports**
  - opaque [152](#)
  - well-known [149](#), [150](#), [151](#)
- power user [1062](#), [1064](#), [1067](#)
- predefined objects [1148](#)
- prerequisites**
  - application support [526](#)
  - TCP/IP protocols [147](#)
- prerequisites for product [220](#)
- privacy policy [2424](#)
- privileges to access product [220](#)
- probes, shared [59](#)
- procedures library [1323](#)
- product codes [1256](#)
- product integration [60](#)
- products**
  - supported [1128](#)
- profile viewing and cloning [977](#)
- profiles [973](#)
- profiles**
  - interface [976](#), [976](#)
  - locale [980](#), [980](#)
  - log-on [976](#)
- Protocol 1 field [1387](#)
- publications**
  - hardcopy [67](#)

## Q

- queries**
  - predefined [1148](#)
- QUERY [1042](#)
- Query access field [1389](#)
- QUERY CONNECT command [1214](#)
- QUERY DATASTORE command [1215](#), [1242](#)
- query profiles [570](#)
- QUERYLOGIC [1043](#)
- QUERYTYPE keyword [1044](#)
- QUERYWHEN keyword [1030](#), [1044](#)
- QUERYWHEN keyword (popup panel) [1054](#)

## R

- RACF [1070](#)
- RACF**
  - OPERCMD5 facility class [548](#), [547](#)
  - setting up security [540](#), [547](#)
  - setting up security**
    - userid mapping file for [548](#)

RAS1 command [1219](#)  
**RAS1 traces**  
   KBB library service [1216](#)  
   levels [1217](#), [1217](#)  
   output, redirecting [1221](#)  
   redirecting output [1221](#)  
   syntax [1220](#)  
   unit [1217](#)  
**RASTOP**  
   sense codes [2401](#)  
**RASTR**  
   sense codes [2404](#)  
 RecID field [1203](#), [1204](#), [1204](#), [1205](#), [1206](#)  
 Reconnect after TCP/IP recycle field [1269](#), [1406](#)  
 RECOVER command [1213](#)  
 RECOVER logic [1209](#)  
**refresh**  
   on demand or intervals [1152](#)  
**REFRESH request**  
   sense codes [2397](#)  
 registering monitoring agents [526](#)  
 registry refresh [913](#)  
 Registry Services [57](#)  
 registry settings [1191](#)  
**remote**  
   decisions [131](#), [133](#)  
   defined [55](#), [55](#)  
   location [131](#), [133](#)  
 remote deployment [260](#), [341](#), [350](#)  
**remote monitoring server**  
   reporting to distributed hub [461](#)  
 Remote RTE for transport field [1346](#)  
**REMOVE request**  
   sense codes [2404](#)  
 replicating runtime environments [477](#), [855](#)  
 required Java version [169](#)  
**requirements**  
   [67](#), [138](#)  
   application support [526](#)  
   communication protocols [140](#), [147](#)  
   DVIPA [147](#)  
   Event Integration Facility (EIF) [462](#)  
   firewall support [148](#)  
   security [157](#)  
   TEMS name [134](#)  
   VIPA [147](#)  
 RESERVE parameter [540](#), [541](#), [1434](#)  
 RESETNAV command [923](#)  
 resource names for enhanced 3270 user interface [570](#)  
 RESUME command [1214](#)  
 RESUME logic [1209](#)  
 review [1018](#), [1016](#)  
 RKANDATV data set [534](#), [535](#)  
 RKANPARU data set [1217](#), [1221](#)  
 RKANPARU library [1257](#)  
 RKDSEVT data set [173](#)  
 RKLVLLOG [2298](#)  
 RKLVLLOG DDNAME [1246](#)  
 RKLVSnap [2298](#)  
 RKPDIIN DDNAME [1246](#)  
 RKPDILOG [2298](#)  
 RKPDIOUT [2298](#)  
 Rocket [1186](#)  
 Rocket OWL [1186](#)  
 Row Count field [1204](#)  
 Row Length field [1206](#)  
 RTE base alias specification field [1352](#)  
 RTE configuration profile [415](#), [438](#)  
 RTE configuration profile, customizing [449](#)  
 RTE configuration profile, dla [440](#)  
 RTE directory field [1360](#)  
 RTE name specification field [1353](#)  
 RTE parameters [294](#), [1332](#)  
 RTE profile [431](#), [868](#)  
 RTE viewing [973](#), [973](#)  
 RTE\_BASE\_MIDDLEV batch parameter [1332](#)  
 RTE\_BASE\_NAME parameter [1332](#)  
 RTE\_CAN\_SS\_IEFSSN\_FMT batch parameter [1336](#)  
 RTE\_CAN\_SS\_STC batch parameter [1332](#)  
 RTE\_CAN\_SS\_WTO batch parameter [1337](#)  
 RTE\_CAN\_SSID batch parameter [1337](#)  
 RTE\_CANSCN\_STC parameter [1332](#)  
 RTE\_CANSETE\_STC parameter [1332](#)  
 RTE\_CLONE\_FROM\_HLQRTE parameter [1333](#)  
 RTE\_CLONE\_FROM\_VSAM\_HLQRTE parameter [1333](#)  
 RTE\_CMS batch parameter [1355](#)  
 RTE\_DEBUG\_SYSOUT batch parameter [1334](#)  
 RTE\_DEBUG\_SYSOUT parameter [1334](#)  
 RTE\_DESC batch parameter [1334](#)  
 RTE\_DESCRIPTION parameter [1334](#)  
 RTE\_ETE\_STC batch parameter [1332](#)  
 RTE\_HILEV batch parameter [1334](#)  
 RTE\_HILEV parameter [1247](#), [1334](#)  
 RTE\_JCL\_SUFF batch parameter [1335](#)  
 RTE\_JCL\_SUFFIX parameter [1335](#)  
 RTE\_KCN\_CACHE\_KM5\_RMF\_DDS parameter [1335](#)  
 RTE\_KCN\_VTAM\_APPL\_LOGON parameter [1335](#)  
 RTE\_KCN\_VTAM\_NODE parameter [1336](#)  
 RTE\_KCNDLSSI\_IEFSSN00\_FORMAT parameter [1336](#)  
 RTE\_KCNSTR00\_SSID parameter [1337](#)  
 RTE\_KCNSTR00\_WTO parameter [1337](#)  
 RTE\_KCNSTR00\_XCFGROUP batch parameter [1338](#)  
 RTE\_KCNSTR00\_XCFGROUP parameter [1338](#)  
 RTE\_KM5\_NTH parameter [1338](#)  
 RTE\_LOAD\_OPTIMIZE batch parameter [1338](#)  
 RTE\_LOAD\_OPTIMIZE parameter [1338](#)  
 RTE\_LOAD\_SHARED\_LIBS [431](#)  
 RTE\_LOAD\_SHARED\_LIBS batch parameter [1339](#)  
 RTE\_LOAD\_SHARED\_LIBS parameter [1339](#)

RTE\_LOG\_SYSOUT batch parameter [1339](#)  
RTE\_LOG\_SYSOUT parameter [1339](#)  
RTE\_NAME [236](#)  
RTE\_NAME batch parameter [1340](#)  
RTE\_NAME parameter [1247](#), [1340](#)  
RTE\_NAMESV parameter [1248](#)  
RTE\_PDS2\_ACTIVATION [1344](#)  
RTE\_PDS2\_ALLOC\_TYPE [1344](#)  
RTE\_PDS2\_HILEV [1345](#)  
RTE\_PDS2\_SMS\_DATACLAS [1345](#)  
RTE\_PDS2\_SMS\_MGMTCLAS [1345](#)  
RTE\_PDS2\_SMS\_STORCLAS [1345](#)  
RTE\_PDS2\_VOLUME [1345](#)  
RTE\_PDS\_BACKUP\_FLAG parameter [1340](#)  
RTE\_PDS\_BATCHINIT\_FLAG parameter [1340](#)  
RTE\_PDS\_BU batch parameter [1340](#)  
RTE\_PDS\_CNT batch parameter [1288](#)  
RTE\_PDS\_EXP batch parameter [1341](#)  
RTE\_PDS\_EXPORT\_FLAG parameter [1341](#)  
RTE\_PDS\_EXT batch parameter [1342](#)  
RTE\_PDS\_EXTRACT\_FLAG parameter [1342](#)  
RTE\_PDS\_HILEV batch parameter [1342](#)  
RTE\_PDS\_HILEV parameter [1342](#)  
RTE\_PDS\_KPDPROC\_PREFIX parameter [1342](#)  
RTE\_PDS\_PROC\_PREF batch parameter [1342](#)  
RTE\_PDS\_SMS\_MGMT\_CLAS batch parameter [1343](#)  
RTE\_PDS\_SMS\_MGMTCLAS parameter [1343](#)  
RTE\_PDS\_SMS\_STOR\_CLAS batch parameter [1343](#)  
RTE\_PDS\_SMS\_STORCLAS parameter [1343](#)  
RTE\_PDS\_SMS\_UNIT parameter [1343](#)  
RTE\_PDS\_SMS\_VOLUME parameter [1343](#)  
RTE\_PDS\_UNIT batch parameter [1343](#)  
RTE\_PDS\_VOL batch parameter [1343](#)  
RTE\_PDSE batch parameter [1350](#)  
RTE\_PLIB\_HILEV [286](#), [236](#), [1345](#)  
RTE\_PLIB\_HILEV parameter [1248](#)  
RTE\_REMOTE batch parameter [1346](#)  
RTE\_REMOTE\_LPAR\_FLAG parameter [1346](#)  
RTE\_SECURITY batch parameter [1348](#)  
RTE\_SECURITY\_CLASS [552](#), [570](#)  
RTE\_SECURITY\_CLASS parameter [286](#)  
RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG parameter [287](#)  
RTE\_SECURITY\_KAES256\_KEY parameter [1348](#)  
RTE\_SECURITY\_USER\_LOGON parameter [539](#), [1348](#)  
RTE\_SHARE batch parameter [1349](#)  
RTE\_SHARE parameter [1247](#), [1349](#)  
RTE\_SMS\_\* parameter [1248](#)  
RTE\_SMS\_MGMT\_CLAS batch parameter [1350](#)  
RTE\_SMS\_MGMTCLAS parameter [1350](#)  
RTE\_SMS\_PDSE\_FLAG parameter [1350](#)  
RTE\_SMS\_STOR\_CLAS batch parameter [1350](#)  
RTE\_SMS\_STORCLAS parameter [1350](#)  
RTE\_SMS\_UNIT parameter [1351](#)  
RTE\_SMS\_VOLUME parameter [1351](#)  
RTE\_SMS\_VSAM\_MGMT\_CLAS batch parameter [1351](#)  
RTE\_SMS\_VSAM\_MGMTCLAS parameter [1351](#)  
RTE\_SMS\_VSAM\_STOR\_CLAS batch parameter [1351](#)  
RTE\_SMS\_VSAM\_STORCLAS parameter [1351](#)  
RTE\_SMS\_VSAM\_VOLUME parameter [1352](#)  
RTE\_STC\_PREF batch parameter [1352](#), [1372](#)  
RTE\_STC\_PREFIX parameter [1248](#), [1249](#), [1352](#), [1372](#)  
RTE\_SYS\_PROCLIB batch parameter [1323](#)  
RTE\_SYS\_VTAMLST batch parameter [1325](#)  
RTE\_SYSV batch parameter [1353](#)  
RTE\_SYSV\_BASE\_ALIAS batch parameter [1352](#)  
RTE\_SYSV\_BASE\_ALIAS parameter [1352](#)  
RTE\_SYSV\_NAME batch parameter [1353](#)  
RTE\_SYSV\_NAME parameter [1353](#)  
RTE\_SYSV\_SYSVAR\_FLAG parameter [1353](#)  
RTE\_SYSV\_SYSVAR\_FLAG parameter setting [1251](#)  
RTE\_SYSV\_VTAM\_NETID parameter [1354](#)  
RTE\_SYSV\_VTM\_NETID batch parameter [1354](#)  
RTE\_TCP\_HOST parameter [288](#)  
RTE\_TCP\_PORT\_NUM [431](#)  
RTE\_TCP\_PORT\_NUM parameter [289](#)  
RTE\_TEMS\_CONFIGURED\_FLAG parameter [1355](#)  
RTE\_TEMS\_NAME\_NODEID parameter [1355](#)  
RTE\_TEMS\_TRANSPORT\_MODE [290](#)  
RTE\_TN3270\_DXL\_HOSTADDRESS parameter [1357](#)  
RTE\_TN3270\_DXL\_LUGROUP parameter [1357](#)  
RTE\_TN3270\_DXL\_TN3270PORT parameter [1357](#)  
RTE\_TN3270\_LUGROUP batch parameter [1357](#)  
RTE\_TN3270\_TCP\_HOST batch parameter [1357](#)  
RTE\_TN3270\_TCP\_PORT batch parameter [1357](#)  
RTE\_TYP batch parameter [1358](#)  
RTE\_TYPE parameter [1358](#)  
RTE\_UNIT batch parameter [1351](#)  
RTE\_USERMODS batch parameter [1359](#)  
RTE\_USERMODS\_FLAG parameter [1359](#)  
RTE\_USS\_MKDIR\_MODE parameter [1359](#)  
RTE\_USS\_RTEDIR [138](#)  
RTE\_USS\_RTEDIR batch parameter [1360](#)  
RTE\_USS\_RTEDIR parameter [1360](#)  
RTE\_VALIDATION\_LEVEL parameter [1361](#)  
RTE\_VSAM\_HILEV batch parameter [1362](#)  
RTE\_VSAM\_HILEV parameter [1247](#), [1362](#)  
RTE\_VTAM\_APPLID\_PREFIX parameter [1362](#)  
RTE\_VTAM\_GBL\_MAJOR\_NODE parameter [1362](#)  
RTE\_VTAM\_LU62\_DLOGMOD parameter [1363](#)  
RTE\_VTAM\_LU62\_MODETAB parameter [1363](#)  
RTE\_VTAM\_NETID parameter [1363](#)  
RTE\_VTM\_APPL\_PREF batch parameter [1362](#)  
RTE\_VTM\_CANDLE\_NODE batch parameter [1362](#)  
RTE\_VTM\_LU62\_LOG batch parameter [1363](#)  
RTE\_VTM\_LU62\_LOGTAB batch parameter [1363](#)  
RTE\_VTM\_NETID batch parameter [1363](#)

RTE\_X\_HILEV\_SHARING parameter [1247](#), [1364](#)  
 RTE\_X\_KCNDLSSI\_INITPARM\_FLAG parameter [1364](#)  
 RTE\_X\_KCNSTR00\_PLEXCOLLECT parameter [1365](#)  
 RTE\_X\_KCNSTR00\_REFRESH parameter [1366](#)  
 RTE\_X\_SECURITY\_DATA\_ABOVE parameter [1366](#)  
 RTE\_X\_SECURITY\_EXIT\_LIB parameter [1367](#)  
 RTE\_X\_SMS\_MGMTCLAS\_SHARE parameter [1368](#)  
 RTE\_X\_SMS\_PDSE\_FLAG\_SHARE parameter [1368](#)  
 RTE\_X\_SMS\_STORCLAS\_SHARE parameter [1369](#)  
 RTE\_X\_SMS\_UNIT\_SHARE parameter [1369](#)  
 RTE\_X\_SMS\_VOLUME\_SHARE parameter [1370](#)  
 RTE\_X\_SMS\_VSAM\_MGMTCLAS\_SHARE parameter [1370](#)  
 RTE\_X\_SMS\_VSAM\_STORCLAS\_SHARE parameter [1371](#)  
 RTE\_X\_SMS\_VSAM\_VOLUME\_SHARE parameter [1371](#)  
 RTE\_X\_SYSV\_OVERRIDE\_SYMBOLS parameter [1251](#)  
**RTEDEF**  
   members for variables [334](#)  
 rule base [462](#)  
**runtime environment**  
   basic extra parameters [291](#)  
   creating [222](#)  
   creating or updating [229](#)  
   definition library [319](#)  
   definition library members [320](#)  
   different default parameters [292](#)  
   in a sysplex [330](#)  
   initial library members [322](#)  
   order of definition library members [321](#)  
   parameters [279](#)  
   RTE member locations [329](#)  
   sparse parameters tables [318](#)  
**runtime environment configuration profile**  
   customizing [449](#)  
   dla [440](#)  
 runtime environment parameters [293](#), [294](#), [1332](#)  
**runtime environment parameters**  
   K\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS [1309](#)  
   KDS\_X\_KDE\_TRANSPORT\_GBL\_OPTIONS [1423](#)  
   Kpp\_PDS\_FILE\_COUNT [1288](#)  
   RTE\_BASE\_NAME [1332](#)  
   RTE\_CLONE\_FROM\_HLQRTE [1333](#)  
   RTE\_CLONE\_FROM\_VSAM\_HLQRTE [1333](#)  
   RTE\_DEBUG\_SYSOUT [1334](#)  
   RTE\_DESCRIPTION [1334](#)  
   RTE\_HILEV [1334](#)  
   RTE\_JCL\_SUFFIX [1335](#)  
   RTE\_KCN\_CACHE\_KM5\_RMF\_DDS [1335](#)  
   RTE\_KCN\_VTAM\_APPL\_LOGON [1335](#)  
   RTE\_KCN\_VTAM\_NODE [1336](#)  
   RTE\_KM5\_NTH [1338](#)  
   RTE\_LOAD\_OPTIMIZE [1338](#)  
   RTE\_LOAD\_SHARED\_LIBS [1339](#)  
   RTE\_LOG\_SYSOUT [1339](#)  
   RTE\_NAME [1340](#)  
   RTE\_PDS\_BACKUP\_FLAG [1340](#)  
   RTE\_PDS\_EXPORT\_FLAG [1341](#)  
   RTE\_PDS\_EXTRACT\_FLAG [1342](#)  
   RTE\_PDS\_HILEV [1342](#)  
   RTE\_PDS\_KPDPROC\_PREFIX [1342](#)  
   RTE\_PDS\_SMS\_MGMTCLAS [1343](#)  
   RTE\_PDS\_SMS\_STORCLAS [1343](#)  
   RTE\_PDS\_SMS\_UNIT [1343](#)  
   RTE\_PDS\_SMS\_VOLUME [1343](#)  
   RTE\_REMOTE\_LPAR\_FLAG [1346](#)  
   RTE\_SECURITY\_CLASS [286](#)  
   RTE\_SECURITY\_FOLD\_PASSWORD\_FLAG [287](#)  
   RTE\_SECURITY\_USER\_LOGON [1348](#)  
   RTE\_SHARE [1349](#)  
   RTE\_SMS\_MGMTCLAS [1350](#)  
   RTE\_SMS\_PDSE\_FLAG [1350](#)  
   RTE\_SMS\_STORCLAS [1350](#)  
   RTE\_SMS\_UNIT [1351](#)  
   RTE\_SMS\_VOLUME [1351](#)  
   RTE\_SMS\_VSAM\_MGMTCLAS [1351](#)  
   RTE\_SMS\_VSAM\_STORCLAS [1351](#)  
   RTE\_SMS\_VSAM\_VOLUME [1352](#)  
   RTE\_STC\_PREFIX [1352](#), [1372](#)  
   RTE\_SYSV\_BASE\_ALIAS [1352](#)  
   RTE\_SYSV\_NAME [1353](#)  
   RTE\_SYSV\_SYSVAR\_FLAG [1353](#)  
   RTE\_SYSV\_VTAM\_NETID [1354](#)  
   RTE\_TCP\_HOST [288](#)  
   RTE\_TCP\_PORT\_NUM [289](#)  
   RTE\_TEMS\_CONFIGURED\_FLAG [1355](#)  
   RTE\_TN3270\_DXL\_HOSTADDRESS [1357](#)  
   RTE\_TN3270\_DXL\_LUGROUP [1357](#)  
   RTE\_TN3270\_DXL\_TN3270PORT [1357](#)  
   RTE\_TYPE [1358](#)  
   RTE\_USERMODS\_FLAG [1359](#)  
   RTE\_USS\_RTEDIR [1360](#)  
   RTE\_VALIDATION\_LEVEL [1361](#)  
   RTE\_VSAM\_HILEV [1362](#)  
   RTE\_VTAM\_APPLID\_PREFIX [1362](#)  
   RTE\_VTAM\_GBL\_MAJOR\_NODE [1362](#)  
   RTE\_VTAM\_LU62\_DLOGMOD [1363](#)  
   RTE\_VTAM\_LU62\_MODETAB [1363](#)  
   RTE\_VTAM\_NETID [1363](#)  
 Runtime environment viewing [973](#)  
**runtime environments**  
   completing the configuration [522](#)  
   configuring [125](#)  
   data sets [124](#)  
   decisions [123](#)  
   defined [123](#)  
   full [123](#), [125](#)  
   JCL [125](#)  
   jobs [125](#)  
   libraries [123](#)  
   naming convention

- data sets [124](#)
- jobs [125](#)
- overview [123](#)
- PLB3SP14 [876](#)
- self-contained [123](#), [125](#)
- sharing with base [123](#), [127](#)
- sharing with full [123](#), [128](#)
- sharing with SMP/E [123](#), [130](#)
- types [125](#)
- update TCP/IP port values [452](#)
- verify products [451](#)

runtime environments, replicating [477](#), [855](#)

**runtime libraries**

- defined [123](#)

Runtime members analysis field [1359](#)

runtime processing for system variables [1246](#)

## S

SAF application ID [574](#)

SAF general resource class [566](#)

SAF global resource class [566](#)

SAF mode [1074](#), [1070](#)

SAF resource names [570](#)

scenarios [612](#)

**scenarios**

- @MDLHF [646](#)
- full runtime environment with static hub monitoring server [646](#)
- high-availability hub [458](#)
- PGN06 [876](#)
- PLB3SP14 [876](#)

**upgrade**

- cloned environment [195](#)
- new CSI [204](#)
- overview [195](#)

scrolling [922](#)

screen sizes, supported [899](#)

SCROLLBAR keyword [1045](#)

SCROLLCOLS [1045](#)

scrolling, lateral [917](#)

SCROLLROWS [1045](#)

SDUMP parameter [1433](#)

**secure protocols**

- HTTPS protocol [153](#), [157](#)
- Internet Inter-ORB Protocol (IIOP) [157](#)
- Interoperable Object Reference (IOR) protocol [157](#)

Secure Socket Layers (SSL) [153](#), [157](#)

security [538](#), [549](#), [549](#), [552](#), [553](#), [573](#)

**security**

- [139](#), [139](#)
- 3270 OMEGAMON interface [160](#)
- CA-ACF2 [541](#)
- CA-TOP SECRET [541](#)
- changing [543](#)
- command-level [160](#)

- communications [157](#)
- enable [558](#)
- enabling [539](#)
- firewall implementation [148](#)
- menu interface [160](#)
- NAM [542](#)
- OMEGAMON enhanced 3270 user interface [564](#)
- product-level [160](#)
- RACF [540](#)
- requirements [157](#), [539](#)
- resource names for enhanced 3270 user interface [570](#)
- Service Console [161](#)
- setting up [539](#)
- SOAP server [161](#)
- supported packages [539](#)

security exits [336](#)

Security system field [1348](#)

Security: Validate User option [159](#)

seeding [526](#)

select a secondary hub connection [996](#)

SELECT MEMBER parameter [844](#)

selecting [918](#)

SELECTROW keywords [1045](#)

**self describing agent feature**

- granular control of [136](#)

**self describing agents**

- directory permissions [138](#)
- Z/OS UNIX System Services disk space requirements [137](#)

**self-describing agent**

- enable [461](#)
- feature overview [146](#), [135](#)

**self-describing agent feature**

- enabling granular control [525](#)

self-describing agents [453](#)

ServerLocation parameter [1399](#)

ServerPac [67](#)

ServerPort parameter [1400](#)

**Service Console**

- commands [1219](#)
- defined [1217](#)
- starting [1218](#)

Service Console user authentication [161](#)

set default TEP server [1137](#)

setting the auto update interval [922](#)

setting up the work environment [431](#)

settings [896](#), [1006](#), [1006](#)

**shared CSI**

- advantages [122](#)
- guidelines [122](#)

shared probes [59](#)

Sharing field [1349](#)

**sharing runtime environments**

- with base [123](#), [127](#)
- with full [123](#), [128](#)
- with SMP/E [123](#), [130](#)

- SHOWNAV command [923](#)
- SIGN parameter [541](#)
- silent first workspace [1061](#)
- Simple Object Access Protocol (SOAP) [138](#)
- single sign-on [159](#)
- situation [1098](#)
- Situation Event Console [57](#)
- situation status [1098](#)
- situations**
  - event indicators [1150](#)
  - event overview [1150](#)
  - predefined [1148](#)
  - tour [1149](#)
- SKIP [1045](#)
- SKIP option [151](#), [151](#)
- Slot Size field [1205](#)
- SMF type-112 records [140](#)
- SMP/E [1330](#)
- SMP/E**
  - changing high-level qualifiers [195](#)
  - cloned environment [195](#), [195](#)
  - sharing target libraries [123](#), [130](#)
  - target libraries [123](#)
  - unlocking high-level qualifiers [195](#)
- SMP/E target library copy [316](#)
- SNA global location broker applid field [1390](#)
- SNA LU6.2 logmode logmode field [1390](#)
- SNA network ID field [1390](#)
- SNA protocol**
  - requirements [147](#)
- SNA.PIPE field [1264](#), [1395](#)
- SNMP traps [173](#)
- SOAP server**
  - security [161](#)
- SOAP servers [134](#)
- SOAP\_IS\_SECURE [552](#)
- SORTCOLS keyword [1045](#)
- sorting [918](#)
- SPACE keyword [1046](#)
- space requirements, historical data collection [156](#)
- Spare 1 field [1204](#)
- Spare field [1204](#)
- Specify SAF security class [286](#)
- Specify the communication protocols in priority sequence field [1264](#)
- SPIPE protocol [157](#)
- SQL files [526](#)
- SQL Type field [1204](#)
- stack name, TCP/IP [147](#)
- staged upgrade**
  - cloned environment [195](#)
  - new CSI [204](#)
  - overview [195](#)
- staged upgrade, issues [171](#)
- stand-alone**
  - monitoring agents [145](#)
  - monitoring servers [145](#)
- STARTCOLAPS keyword [1046](#)
- Started task field [1276](#), [1416](#)
- started tasks**
  - managing [1252](#)
  - MUSASS [541](#)
  - naming conventions [1252](#)
  - using symbolics with [1249](#)
  - Workload Manager (WLM) settings [1254](#)
- STARTMIN keyword [1046](#)
- startup parameters, defined [1258](#)
- stash file [157](#)
- static hub [481](#)
- STATICCOLS keywords [1046](#)
- status lights [913](#)
- STATUS request**
  - sense codes [2399](#)
- STATUSCOLS keyword [1047](#)
- STC prefix field [1352](#), [1372](#), [1408](#)
- STC record [541](#)
- storage**
  - requirements [122](#)
- Storage detail logging: Hours field [1273](#), [1408](#)
- Storage detail logging: Minutes field [1274](#), [1409](#)
- Storclas field [1350](#), [1351](#)
- subpanel keywords**
  - MODE [1041](#)
- subpanels**
  - closing [921](#)
  - collapsing [920](#)
  - expanding [920](#)
  - maximizing [920](#)
  - minimizing [920](#)
- subsystem**
  - OMEGAMON [1022](#)
- Summarization and Pruning agent [56](#)
- summary of changes [14](#), [1129](#), [1508](#)
- super user [1062](#), [1064](#), [1067](#)
- supported products [214](#), [1128](#)
- SVC 34 [1209](#)
- SWITCH command [1209](#), [1210](#), [1243](#)
- SWITCH logic [1209](#)
- switching hub connections [992](#), [989](#)
- switching hubs. [894](#)
- symbolics [1245](#)
- symbolics**
  - types supported [1246](#)
- symbols [1245](#)
- synchronization, event [140](#)
- syntax, RAS1 traces [1220](#)
- SYS1.ACF2.MACLIB library [1312](#)
- SYS1.MACLIB macro library [1322](#)
- SYS1.PARMLIB parameter library [1323](#)
- SYS1.PROCLIB procedures library [1323](#)
- SYS1.SBLSCLIO library [1324](#)

- SYS1.SISTMAC1 library [1324](#)
- SYS1.VTAMLIB library [1325](#)
- SYS1.VTAMLST library [1325](#)
- sysadmin user account [159](#)
- sysadmin user ID [157](#)
- SYSIN parameters [1258](#)
- SYSNAME parameter [314](#)
- SYSOUT class field [1339](#)
- SYSPRINT sysout data set [275](#)
- SYSTCPD library [1327](#)
- System Authorization Facility (SAF)**
  - security class name, specifying [286](#)
- system libraries**
  - SYS1.ACF2.MACLIB [1312](#)
  - SYS1.MACLIB [1322](#)
  - SYS1.PARMLIB [1323](#)
  - SYS1.PROCLIB [1323](#)
  - SYS1.SBLSCLIO [1324](#)
  - SYS1.SISTMAC1 [1324](#)
  - SYS1.VTAMLIB [1325](#)
  - SYS1.VTAMLST [1325](#)
  - SYSTCPD [1327](#)
- System procedure field [1323](#)
- system variables [1054](#), [1251](#)
- system variables**
  - \$PARSE-extracted symbolics [1246](#)
  - referencing [1245](#)
  - referencing**
    - in started tasks [1245](#)
    - in VTAM major node members [1245](#)
  - system variables [1246](#)
  - types supported [1246](#)
  - user-defined symbolics [1246](#)
- system variables profile [415](#)
- System VTAMLST field [1325](#)
- SystemPac [67](#)

## T

- Table Count field [1203](#)
- table description record [1204](#)
- Table Ident field [1204](#), [1206](#)
- Table Name field [1204](#)
- Table Row Len field [1203](#)
- Table Version field [1204](#)
- table, SOAP server [139](#)
- Take Action [1120](#)
- Take Action command authorization**
  - NetView [547](#)
  - NetView**
    - configuring [544](#)
    - enabling [545](#)
  - RACF [547](#)
- Take Action commands [916](#)
- Tape high-level qualifier field [1380](#)
- Tape unit type field [1380](#)

- Tape volser field [1381](#)
- tapes, product [67](#)
- target copy parameters [316](#)
- target libraries high-level qualifiers [1330](#)
- target libraries, SMP/E [123](#), [123](#), [130](#)
- TASKS parameter [1436](#)
- TCP hostname field [1388](#), [1412](#)
- TCP port number field [1388](#)
- TCP/IP**
  - interface list [152](#)
  - network interfaces [152](#)
  - OMVS segment, default [147](#)
  - port number changes [151](#)
  - port numbers [150](#)
  - requirements [147](#), [147](#), [150](#)
- TCP/IP stack name [147](#)
- TCP/IP system library [1327](#)
- TCP/IP\_USERID parameter [1406](#), [1416](#)
- TCP\_DATA batch parameter [1327](#)
- TCPIP.DATA data set [452](#)
- TEMS application ID field [1418](#)
- TEMS configuration**
  - completing [523](#)
- TEMS name**
  - for application support [536](#), [537](#)
  - guidelines [134](#)
- TEMS Name field [1277](#)
- TEMS PPI sender field [1391](#)
- TEMS REST API [1080](#), [1095](#), [1098](#), [1120](#)
- TEMS REST API authentication [1082](#)
- TEMS REST API authorization [1083](#)
- TEMS REST services [1080](#), [1095](#), [1098](#), [1120](#)
- TEMS REST services authentication [1082](#)
- TEMS REST services authorization [1083](#)
- TEMS secured field [1387](#)
- TEMS\_JAVA\_BINPATH environment variable [137](#)
- TEMS\_MANIFEST\_PATH [138](#)
- tenant [1064](#)
- tenant**
  - defining [1067](#), [1068](#), [1070](#)
- tenant user [1062](#), [1064](#)
- TEPS**
  - editing default [1137](#)
  - list of [1137](#)
  - setting default [1137](#)
- TEPS/e [57](#)
- TEXT keyword [1047](#)
- threshold viewing and cloning [963](#)
- thresholds [913](#)
- thresholds**
  - acceptable formats [969](#), [969](#)
  - customizing [963](#), [967](#)
  - disabling [969](#)
  - modifying [963](#)
  - parameter definitions [969](#)

- parameters [969](#)
- syntax [969](#)
- Timestamp field [1205](#)
- Tivoli Authorization Policy Server [58](#)
- Tivoli Enterprise Console**
  - event server [57](#)
  - event synchronization [57](#)
  - event view [57](#)
  - integration [57](#)
- Tivoli Enterprise Monitoring Agents (TEMA) [1061](#)
- Tivoli Enterprise Monitoring Automation Server [57](#)
- Tivoli Enterprise Monitoring Server (TEMS) [1061](#)
- Tivoli Enterprise Monitoring Server parameters**
  - KDS\_TEMS\_COMM\_PROTOCOL [1395](#)
- Tivoli Enterprise Portal**
  - authorizing users [159](#)
  - tour [1149](#)
- TMS encryption key field [1407](#)
- TMS:Engine default values [1258](#)
- TMS:Engine field [1280](#)
- TMS:Engine VTAM program operator field [1279](#)
- TMS:Engine, defined [56](#)
- TOFROMHEADER keyword [1048](#)
- Total Slots field [1205](#)
- trace [1079](#)
- trace logging**
  - defined [1519](#)
- tracing**
  - KBB library service [1216](#)
  - levels [1217](#), [1217](#)
  - output, redirecting [1221](#)
  - RAS1 [1021](#), [1022](#), [1020](#)
  - redirecting output [1221](#)
  - syntax [1220](#)
  - unit [1217](#)
- transport methods [479](#)
- TREEBRANCHES [1048](#)
- TREEBUTTONS keyword [1048](#)
- TREECOLLAPSE [1048](#)
- TREEHSEP1 keyword [1049](#)
- TREEHSEP2 keyword [1049](#)
- TREEICON keyword [1049](#)
- TREELEVEL keyword [1049](#)
- TREEROOT [1049](#)
- TREEROWTYPE keyword [1050](#)
- TREESTATE keyword [1050](#)
- TREEWIDGET [1050](#)
- TRG parameters [316](#)
- TRG\_COPY\_HILEV [316](#)
- TRG\_COPY\_MGMTCLAS [316](#)
- TRG\_COPY\_NAME [316](#)
- TRG\_COPY\_STORCLAS [317](#)
- TRG\_COPY\_TKANJAR\_PATH [317](#)
- TRG\_COPY\_TKAYHFS\_PATH [317](#)
- TRG\_COPY\_UNIT [317](#)

- TRG\_COPY\_VOLUME [318](#)
- troubleshooting [365](#), [1078](#), [1155](#)
- troubleshooting**
  - AT-TLS configuration errors [1005](#)
  - first workspace does not load [1078](#)
  - no data condition [1079](#)
- tutorial [1149](#)
- Type field [1358](#)
- TYPE keyword [1050](#)

## U

- Unit field [1351](#)
- unit traces [1217](#)
- UNIX System Services, z/OS [137](#)
- Update access field [1389](#)
- Update Runtime Environment panel [543](#)
- updating runtime environment [229](#)
- upgrade**
  - cloned environment [195](#)
  - scenarios**
    - new CSI [204](#)
    - overview [195](#)
  - sequence [195](#)
  - staged [195](#)
- upgrade paths [194](#)
- upgrade requirements [167](#)
- Use z/OS system variables? field [1353](#)
- Used Slots field [1205](#)
- user**
  - defining [1067](#), [1068](#), [1070](#)
  - definition [1064](#)
- user access list [139](#)
- User ID field [1393](#)
- user IDs [159](#)
- user IDs**
  - procedures [1196](#)
  - SOAP server access [139](#)
  - sysadmin [157](#)
  - validation [139](#)
- user interfaces [890](#)
- user interfaces**
  - [161](#)
  - 3270 "green screen" [161](#)
  - interface [161](#)
  - OMEGAMON enhanced 3270 user interface [161](#)
- User Preferences [936](#)
- user profile customization [937](#)
- user type, [1062](#)
- user-defined profiles [976](#)
- user-defined variables [1057](#), [1245](#)
- users**
  - authenticating [159](#), [160](#)
  - authorizing [159](#)

## V

Validate security field [1407](#)  
 Value field [919](#)  
 Variable Cols field [1204](#)  
 variable representation [1054](#)  
 variables [1054](#), [1054](#)  
**variables**  
   in parameter values [334](#)  
   user-defined [1057](#)  
 variables profile, customizing [438](#)  
 variables runtime processing [1246](#)  
 verify [1013](#), [1014](#), [1012](#), [1014](#)  
 verify hub configuration [523](#)  
 verifying the configuration [557](#)  
 viewing workspace source [975](#)  
**VIPA**  
   dynamic [147](#)  
   name [147](#)  
   requirements [147](#)  
 Virtual IP Address (VIPA) type field [1278](#)  
 Volser field [1352](#)  
**VSAM files**  
   control area splits [122](#)  
   fragmentation [122](#)  
   managing [122](#)  
   performance considerations [122](#)  
 VSAM high-level qualifier field [1381](#)  
 VSEPARATORS [1052](#)  
**VTAM**  
   logmode tables [1325](#)  
   macro library [1324](#)  
   VTAMLST library [1325](#)  
 VTAM applid for Alert Adapter field [1279](#)  
 VTAM load library field [1325](#)  
 VTAM macro library field [1324](#)  
 VTAM major node name field [1362](#)

**W**

Warehouse Proxy agent [56](#)  
 WCONFIG(%RTE\_NAME%) profile [415](#)  
**well-known port**  
   authorization [149](#)  
   changing [151](#)  
   default number [150](#)  
 what's new [14](#), [1129](#), [1508](#)  
 WHENDATA keywords [1052](#)  
 WHENNODATA keywords [1053](#)  
 WHENNOHEADER keyword [1030](#)  
 WHENNOTEXT keyword [1031](#)  
 where configured parameters are stored [1258](#)  
 WHEREAMI command [923](#)  
**Workflow Primary Option Menu**  
   Quick configuration mode [428](#)  
 Workflow user interface [414](#)  
**Workload Manager (WLM)**  
   started task settings [1254](#)  
**workspace**  
   refresh [1152](#)  
   tour [1149](#)  
 workspace customization [947](#)  
**workspace customization**  
   adjusting the filterable columns [957](#)  
   Allotted subpanel row count [960](#)  
   change a column caption and width [954](#)  
   change a workspace and subpanel header [951](#)  
   change the order of displayed columns [953](#)  
   customizing a workspace [950](#)  
   further workspace customization [960](#)  
   Local or agent filter definitions [960](#)  
   Number and order of workspace subpanels [960](#)  
   Number of columns displayed [960](#)  
   remove a subpanel [956](#)  
   Statically defined columns [960](#)  
   Workspace initial and refresh cursor position [960](#)  
   Workspace sort columns [960](#)  
**workspace keywords**  
   IMBED [1029](#)  
**workspace operations**  
   sorting data [918](#)  
 workspace panel definitions [1024](#)  
 Workspace source viewing [973](#)  
 workspace viewing and cloning [943](#)  
**workspace viewing and cloning**  
   customization [947](#)  
 workspaces [1077](#)  
**workspaces**  
   characteristics [1151](#)  
   overview [1151](#)  
   parts of [904](#)  
   predefined [1148](#)  
 WTO parameter [1436](#)

**X**

XF macro [426](#)  
**XTAG**  
   sense codes [2411](#)

**Z**

z/OS data set encryption [1239](#)  
 z/OS UNIX System Services [1360](#)  
**z/OS UNIX System Services**  
   Java on [137](#)  
   **self describing agents**  
     Java requirements for [137](#)  
**z/OS UNIX System Services directories**  
   group-based security [138](#)  
 ZDESTID parameter [1078](#)  
 ZOOMCOLS keyword [1053](#)  
 zooming [922](#)  
 Zooming [922](#)  
 ZOSWTO [885](#)  
 Zowe logs [1155](#)

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