



**Program Directory for  
IBM Tivoli OMEGAMON XE on z/OS Monitoring  
Feature for JVM**

V5.3.0

Program Number 5698-T01

for Use with  
z/OS

Document Date: March 2016

G113-4153-00

**Note**

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 36.

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## 1.0 Introduction

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 OMEGAMON XE on z/OS Monitoring Feature for JVM. This publication refers to IBM Tivoli OMEGAMON XE on z/OS Monitoring Feature for JVM as OMEGAMON Monitoring for JVM.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for OMEGAMON Monitoring for JVM.
- 3.0, “Program Support” on page 6 describes the IBM support available for OMEGAMON Monitoring for JVM.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into OMEGAMON Monitoring for JVM.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using OMEGAMON Monitoring for JVM.
- 6.0, “Installation Instructions” on page 22 provides detailed installation instructions for OMEGAMON Monitoring for JVM. It also describes the procedures for activating the functions of OMEGAMON Monitoring for JVM, or refers to appropriate publications.

Before installing OMEGAMON Monitoring for JVM, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 6 tells you how to find any updates to the information and procedures in this program directory.

OMEGAMON Monitoring for JVM is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for OMEGAMON Monitoring for JVM are included on the CBPDO tape.

Do not use this program directory if you install OMEGAMON Monitoring for JVM with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

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## 1.1 OMEGAMON Monitoring for JVM Description

IBM Tivoli OMEGAMON XE on z/OS Monitoring Feature for JVM V5.3.0 provides resource-level monitoring of all Java virtual machines (JVMs) on z/OS. By using OMEGAMON Monitoring for JVM, you can efficiently monitor, identify, isolate, and correct problems when JVMs on z/OS are in distress or are failing.

OMEGAMON Monitoring for JVM V5.3.0:

- Easy to install, customize, replicate and maintain
- Auto-discovers and monitors all JVMs running on z/OS
- Provides resource and workload information
- Allows customization to integrate workload information with subsystem information
- Real-time Alerts when a problem is occurring, and provides recommendations and tips
- Reduce outages and maximize throughput - saving cost and SLA breaches
- Provides ability to bridge JVM, platform, middleware and workload information
- Increases ability to leverage System Automation, Analytics and OMEGAMON portfolio

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## 1.2 OMEGAMON Monitoring for JVM FMIDs

OMEGAMON Monitoring for JVM consists of the following FMIDs:

HKJJ530  
HKOB730

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for OMEGAMON Monitoring for JVM is 5698-T01.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by OMEGAMON Monitoring for JVM. Ask your IBM representative for this information if you have not already received a copy.

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### 2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 22 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for OMEGAMON Monitoring for JVM in the *CBPDO Memo To Users Extension*.

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### 2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for OMEGAMON Monitoring for JVM.

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## 2.3 Program Publications

The following sections identify the basic publications for OMEGAMON Monitoring for JVM.

Figure 1 identifies the basic unlicensed publications for OMEGAMON Monitoring for JVM.

The unlicensed documentation for OMEGAMON Monitoring for JVM can be found on the IBM Knowledge Center at: [http://www.ibm.com/support/knowledgecenter/SS2JNN\\_5.3.0/com.ibm.omegamon\\_xezos.doc\\_5.3.0/jvm/jvm\\_intro.htm](http://www.ibm.com/support/knowledgecenter/SS2JNN_5.3.0/com.ibm.omegamon_xezos.doc_5.3.0/jvm/jvm_intro.htm)

<i>Figure 1. Basic Material: Unlicensed Publications</i>
<b>Publication Title</b>
<i>Overview</i>
<i>Configuring</i>
<i>Troubleshooting</i>
<i>Using OMEGAMON Monitoring for JVM</i>

Prior to installing OMEGAMON Monitoring for JVM, IBM recommends you review the Quick Start Guide, **New in this release (March 2016), First time deployment guide (FTU installation and configuration tasks)**, as well as the Planning and Configuring topics if you have not already done so. This documentation focuses on the things you will need to know for a successful installation and configuration of this product.

The **OMEGAMON XE and Tivoli Management Services on z/OS** shared documentation, and other Tivoli product documentation can be found at the IBM Knowledge Center URL listed below:

<http://www.ibm.com/support/knowledgecenter/SSAUBV/>

The **First time deployment guide (FTU installation and configuration tasks)** documentation can be found on the IBM Knowledge Center at:

[http://www.ibm.com/support/knowledgecenter/SSAUBV/com.ibm.omegamon\\_share.doc\\_6.3.0.2/ftu/ftu\\_cfg\\_intro.htm](http://www.ibm.com/support/knowledgecenter/SSAUBV/com.ibm.omegamon_share.doc_6.3.0.2/ftu/ftu_cfg_intro.htm)

Refer to the *Program Directory for IBM Tivoli Management Services on z/OS* (GI11-4105) for a complete documentation list and installation instructions for its product components.

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## 2.4 Program Source Materials

No program source materials or viewable program listings are provided for OMEGAMON Monitoring for JVM.



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## 2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of OMEGAMON Monitoring for JVM.

<i>Figure 2. Publications Useful During Installation</i>	
<b>Publication Title</b>	<b>Form Number</b>
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883

These publications can be obtained from the IBM Publications Center website at <http://www.ibm.com/shop/publications/order/>.

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## 3.0 Program Support

This section describes the IBM support available for OMEGAMON Monitoring for JVM.

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### 3.1 Program Services

Contact your IBM representative for specific information about available program services.

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### 3.2 Preventive Service Planning

Before you install OMEGAMON Monitoring for JVM, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on the **APPLY CHECK command**. See 6.1.11, "Perform SMP/E APPLY" on page 29 for a sample APPLY command.

If you obtained OMEGAMON Monitoring for JVM as part of a CBPDO, HOLDDATA is included.

If the CBPDO for OMEGAMON Monitoring for JVM is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp>

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <http://www.ibm.com/software/support/>.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for OMEGAMON Monitoring for JVM are included in Figure 3 on page 7.

This product has an installation requirement for IBM Tivoli Management Services on z/OS V6.3.0 or higher (5698-A79), so you should review the PSP buckets for it as well. Refer to the *Program Directory for IBM Tivoli Management Services on z/OS* (GI11-4105) for those UPGRADE and SUBSET values.

<i>Figure 3. PSP Upgrade and Subset ID</i>		
<b>UPGRADE</b>	<b>SUBSET</b>	<b>Description</b>
JVMON530	HKJJ530	OMEGAMON Monitoring for JVM
	HKOB730	OMNIMON Base

### 3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 4 identifies the component IDs (COMPID) for OMEGAMON Monitoring for JVM.

<i>Figure 4. Component IDs</i>			
<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
HKJJ530	5698T0101	OMEGAMON Monitoring for JVM	530
HKOB730	5608A41OB	OMNIMON Base	730

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## 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of OMEGAMON Monitoring for JVM. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

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### 4.1 Program Level Information

The following APAR fixes against previous releases of components included with OMEGAMON Monitoring for JVM have been incorporated into this release. They are listed by FMID.

- FMID HKOB730

0A38724 0A38914 0A39194 0A39399 0A39622 0A39639 0A39649 0A39671  
0A39889 0A40088 0A40373 0A40429 0A40800 0A40853 0A40973 0A41117  
0A41153 0A41333 0A41451 0A41552 0A41669 0A41694 0A42127 0A42259  
0A42748 0A42958 0A43096 0A43163 0A43364 0A43638

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### 4.2 Service Level Information

No PTFs against this release of OMEGAMON Monitoring for JVM have been incorporated into the product package.

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating OMEGAMON Monitoring for JVM. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
- *Target system*: the system on which the program is configured and run.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

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### 5.1 Driving System Requirements

This section describes the environment of the driving system required to install OMEGAMON Monitoring for JVM.

#### 5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

## 5.1.2 Programming Requirements

Figure 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any <b>one</b> of the following:				
5694-A01	z/OS	V01.13.00	N/A	No
5650-ZOS	z/OS	V02.01.00	N/A	No

**Note:** SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.06.00.

**Note:** Installation might require migration to new z/OS releases to be service supported. See [http://www-03.ibm.com/systems/zos/zos/support/zos\\_eos\\_dates.html](http://www-03.ibm.com/systems/zos/zos/support/zos_eos_dates.html).

OMEGAMON Monitoring for JVM is installed into a file system, either HFS or zFS.

Before installing OMEGAMON Monitoring for JVM, you must ensure that the target system file system data sets are available for processing on the driving system. OMVS must be active on the driving system and the target system file data sets must be mounted on the driving system.

If you plan to install OMEGAMON Monitoring for JVM in a zFS file system, this requires that zFS be active on the driving system. Information on activating and using zFS can be found in z/OS Distributed File Service zSeries File System Administration, SC24-5989.

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## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use OMEGAMON Monitoring for JVM.

OMEGAMON Monitoring for JVM installs in the z/OS (Z038) SREL.

### 5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

## 5.2.2 Programming Requirements

### 5.2.2.1 Installation Requisites

Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

*Figure 6. Target System Mandatory Installation Requisites*

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5694-A01	z/OS	V01.13.00	N/A	No
5650-ZOS	z/OS	V02.01.00	N/A	No
5698-A79	IBM Tivoli Management Services on z/OS	V06.03.00	N/A	No

**Note:** Installation might require migration to new z/OS releases to be service supported. See [http://www-03.ibm.com/systems/z/os/zos/support/zos\\_eos\\_dates.html](http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html).

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IF REQs.

OMEGAMON Monitoring for JVM has no conditional installation requisites.

### 5.2.2.2 Operational Requisites

Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions. These products are specified as PREs or REQs.

Figure 7. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS V01.13.00
5650-ZOS	z/OS V02.01.00
5698-A79	IBM Tivoli Management Services on z/OS V06.03.00 or higher

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REqs.

OMEGAMON Monitoring for JVM has no conditional operational requisites.

### 5.2.2.3 Toleration/Coexistence Requisites

Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

OMEGAMON Monitoring for JVM has no toleration/coexistence requisites.

### 5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

OMEGAMON Monitoring for JVM has no negative requisites.

## 5.2.3 DASD Storage Requirements

OMEGAMON Monitoring for JVM libraries can reside on all supported DASD types.

Figure 8 lists the total space that is required for each type of library.

Figure 8. Total DASD Space Required by OMEGAMON Monitoring for JVM

Library Type	Total Space Required in 3390 Trks
Target	708
Distribution	508
File System(s)	225



**Notes:**

1. If you are installing into an existing environment that has the data sets in Figure 11 on page 15 and Figure 13 on page 16 already allocated, ensure sufficient disk space and directory blocks are available to support the requirement listed. This might require you to reallocate some data sets to avoid x37 abends.
2. Use system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, a block size of 32760 is recommended, which is the most efficient from a performance and DASD utilization perspective.
3. Abbreviations used for data set types are shown as follows.

- U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.
- S** Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information about the names and sizes of the required data sets, see 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 26.

4. Abbreviations used for the file system path type are as follows.

- N** New path, created by this product.
- X** Path created by this product, but might already exist from a previous release.
- P** Previously existing path, created by another product.

5. All target and distribution libraries listed have the following attributes:

- The default name of the data set can not be changed.
- The default block size of the data set can be changed.
- The data set can not be merged with another data set that has equivalent characteristics.

6. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.

- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

7. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can not be in the LPA.
- These data sets can be in the LNKLST except for TKANMODR and TKANMODS.

If you are installing into an existing environment, ensure the values used for the SMP/E work datasets reflect the minimum values shown in Figure 9. Check the corresponding DDDEF entries in all zones because use of values lower than these can result in failures in the installation process. Refer to the SMP/E manuals for instructions on updating DDDEF entries.

<i>Figure 9. Storage Requirements for SMP/E Work Data Sets</i>							
<b>Library DDNAME</b>	<b>T Y P E</b>	<b>O R G A N I Z A T I O N</b>	<b>R E C O R D S</b>	<b>L R E C O R D S</b>	<b>Prim No. of 3390 Trks</b>	<b>Sec No. of 3390 Trks</b>	<b>No. of DIR Blks</b>
SMPWRK1	E	PDS	FB	80	150	150	220
SMPWRK2	E	PDS	FB	80	150	150	220
SMPWRK3	E	PDS	FB	80	300	600	1320
SMPWRK4	E	PDS	FB	80	150	150	220
SMPWRK6	E	PDS	FB	80	300	1500	660
SYSUT1	E	SEQ	--	--	75	75	0
SYSUT2	E	SEQ	--	--	75	75	0
SYSUT3	E	SEQ	--	--	75	75	0
SYSUT4	E	SEQ	--	--	75	75	0

If you are installing into an existing environment, ensure the current SMP/E support dataset allocations reflect the minimum values shown in Figure 10. Check the space and directory block allocation and reallocate the data sets, if necessary.

<i>Figure 10 (Page 1 of 2). Storage Requirements for SMP/E Data Sets</i>							
<b>Library DDNAME</b>	<b>T Y P E</b>	<b>O R G A N I Z A T I O N</b>	<b>R E C O R D S</b>	<b>L R E C O R D S</b>	<b>Prim No. of 3390 Trks</b>	<b>Sec No. of 3390 Trks</b>	<b>No. of DIR Blks</b>
SMPLTS	E	PDSE	U	0	15	150	N/A
SMPMTS	E	PDS	FB	80	15	150	220
SMPPTS	E	PDSE	FB	80	300	1500	N/A

Figure 10 (Page 2 of 2). Storage Requirements for SMP/E Data Sets

Library DDNAME	T Y P E	O R G M	R E C F M	L R E C L	Prim No. of 3390 Trks	Sec No. of 3390 Trks	No. of DIR Blks
SMPSCDS	E	PDS	FB	80	15	150	220
SMPSTS	E	PDS	FB	80	15	150	220

Figure 11 and Figure 13 on page 16 describe the target and distribution libraries and file system paths that will be allocated by this product's install jobs or that will be required for installation. The space requirements reflect what is specified in the allocation job or the space that this product will require in existing libraries. Additional tables are provided to show the specific space required for libraries that are used by each FMID. See 5.2.4, "DASD Storage Requirements by FMID" on page 17 for more information.

The storage requirements of OMEGAMON Monitoring for JVM must be added to the storage required by other programs having data in the same library or path.

Figure 11 (Page 1 of 2). Storage Requirements for OMEGAMON Monitoring for JVM Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCUS	CLIST	Any	E	PDS	FB	80	16	17
TKANDATV	Data	Any	E	PDS	VB	6160	12	3
TKANEXEC	EXEC	Any	S	PDS	VB	255	11	44
TKANHENU	Help	Any	E	PDS	FB	80	6	10
TKANISP	CLIST	Any	S	PDS	FB	80	2	44
TKANMAC	Macro	Any	E	PDS	FB	80	8	3
TKANMOD	LMOD	Any	E	PDS	U	0	105	19
TKANMODL	LMOD	Any	E	PDS	U	0	28	4
TKANMODP	LMOD	Any	S	PDSE	U	0	373	N/A
TKANMODS	LMOD	Any	E	PDS	U	0	74	56
TKANOSRC	Data	Any	S	PDS	VB	255	3	44
TKANPAR	Parm	Any	E	PDS	FB	80	2	4
TKANPKGI	Data	Any	E	PDS	FB	80	17	5
TKANSAM	Sample	Any	E	PDS	FB	80	3	3

Figure 11 (Page 2 of 2). Storage Requirements for OMEGAMON Monitoring for JVM Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANWENU	Panel	Any	S	PDS	FB	80	27	88
TKOBDATF	Data	Any	S	PDS	FB	80	2	44
TKOBHELP	Help	Any	S	PDS	FB	80	19	132

Figure 12. OMEGAMON Monitoring for JVM File System Paths

DDNAME	T Y P E	Path Name
TKANJAR	N	/usr/lpp/kan/bin/IBM

Figure 13 (Page 1 of 2). Storage Requirements for OMEGAMON Monitoring for JVM Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANCUS	E	PDS	FB	80	16	17
DKANDATV	E	PDS	VB	6160	12	3
DKANEXEC	S	PDS	VB	255	11	44
DKANHENU	E	PDS	FB	80	6	10
DKANISP	S	PDS	FB	80	2	44
DKANJAR	S	PDS	VB	255	85	44
DKANMAC	E	PDS	FB	80	8	3
DKANMOD	E	PDS	U	0	109	90
DKANMODL	E	PDS	U	0	28	4
DKANMODP	S	PDSE	U	0	97	N/A
DKANMODS	E	PDS	U	0	61	3
DKANOSRC	S	PDS	VB	255	3	44
DKANPAR	E	PDS	FB	80	2	4
DKANPKG1	E	PDS	FB	80	17	5
DKANSAM	E	PDS	FB	80	3	3

Figure 13 (Page 2 of 2). Storage Requirements for OMEGAMON Monitoring for JVM Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANWENU	S	PDS	FB	80	27	88
DKOBDATF	S	PDS	FB	80	2	44
DKOBHELP	S	PDS	FB	80	19	132

## 5.2.4 DASD Storage Requirements by FMID

The tables in this section can help determine the specific space required for components not already installed in an existing environment. There is a table for each FMID included with the product.

Figure 14 (Page 1 of 2). Storage Requirements for HKJJ530 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCUS	CLIST	Any	E	PDS	FB	80	3	2
TKANDATV	Data	Any	E	PDS	VB	6160	12	3
TKANEXEC	EXEC	Any	S	PDS	VB	255	1	2
TKANHENU	Help	Any	E	PDS	FB	80	3	6
TKANMOD	LMOD	Any	E	PDS	U	0	1	2
TKANMODL	LMOD	Any	E	PDS	U	0	16	2
TKANMODP	LMOD	Any	E	PDS	U	0	12	N/A
TKANPAR	Parm	Any	E	PDS	FB	80	1	2
TKANPKGI	Data	Any	E	PDS	FB	80	4	3
TKANWENU	Panel	Any	S	PDS	FB	80	3	7
DKANCUS			E	PDS	FB	80	3	2
DKANDATV			E	PDS	VB	6160	12	3
DKANEXEC			E	PDS	VB	255	1	2
DKANHENU			E	PDS	FB	80	3	6
DKANJAR			E	PDS	VB	255	74	2
DKANMOD			E	PDS	U	0	1	2
DKANMODL			E	PDS	U	0	16	2

Figure 14 (Page 2 of 2). Storage Requirements for HKJJ530 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANMODP			E	PDS	U	0	16	N/A
DKANPAR			E	PDS	FB	80	1	2
DKANPKGI			E	PDS	FB	80	4	3
DKANWENU			E	PDS	FB	80	3	7

Figure 15 (Page 1 of 2). Storage Requirements for HKOB730 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCUS	CLIST	Any	E	PDS	FB	80	13	15
TKANEXEC	EXEC	Any	S	PDS	VB	255	9	4
TKANHENU	Help	Any	E	PDS	FB	80	3	4
TKANISP	CLIST	Any	S	PDS	FB	80	1	2
TKANMAC	Macro	Any	E	PDS	FB	80	8	3
TKANMOD	LMOD	Any	E	PDS	U	0	104	17
TKANMODL	LMOD	Any	E	PDS	U	0	12	2
TKANMODP	LMOD	Any	S	PDSE	U	0	313	N/A
TKANMODS	LMOD	Any	E	PDS	U	0	74	56
TKANOSRC	Data	Any	S	PDS	VB	255	3	5
TKANPAR	Parm	Any	E	PDS	FB	80	1	2
TKANPKGI	Data	Any	E	PDS	FB	80	13	2
TKANSAM	Sample	Any	E	PDS	FB	80	3	3
TKANWENU	Panel	Any	S	PDS	FB	80	21	27
TKOBDATF	Data	Any	S	PDS	FB	80	1	2
TKOBHELP	Help	Any	S	PDS	FB	80	17	66
DKANCUS			E	PDS	FB	80	91	63
DKANEXEC			S	PDS	VB	255	9	4
DKANHENU			E	PDS	FB	80	3	4
DKANISP			S	PDS	FB	80	1	2

Figure 15 (Page 2 of 2). Storage Requirements for HKOB730 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANMAC			E	PDS	FB	80	8	3
DKANMOD			E	PDS	U	0	108	88
DKANMODL			E	PDS	U	0	12	2
DKANMODP			S	PDSE	U	0	69	N/A
DKANMODS			E	PDS	U	0	61	3
DKANOSRC			S	PDS	VB	255	3	5
DKANPAR			E	PDS	FB	80	1	2
DKANPKGI			E	PDS	FB	80	13	2
DKANSAM			E	PDS	FB	80	3	3
DKANWENU			S	PDS	FB	80	21	27
DKOBDATF			S	PDS	FB	80	1	2
DKOBHELP			S	PDS	FB	80	17	66

### 5.3 FMIDs Deleted

Installing OMEGAMON Monitoring for JVM might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install OMEGAMON Monitoring for JVM into separate SMP/E target and distribution zones.

**Note:** These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETEFMID command. See the SMP/E Commands documentation for details.

---

## 5.4 Special Considerations

To effectively manage a suite of products with common components, you can install products into shared zones of a consolidated software inventory (CSI). Space requirements are reduced by installing products into shared CSI zones avoiding the duplication when different target zones, distribution zones, and data sets are used. Sharing a common set of zones also allows SMP/E to automatically manage IFREQ situations that exist across product components.

If you intend to share a Tivoli Enterprise Monitoring Server on z/OS with other products, use shared CSI zones so product configuration sets up the runtime environment correctly.

The installation of OMEGAMON Monitoring for JVM requires the Tivoli Enterprise Monitoring Server on z/OS be installed in the CSI. Refer to the *Program Directory for IBM Tivoli Management Services on z/OS* (GI11-4105) for installation instructions of its product components.

Prior to installing OMEGAMON Monitoring for JVM, IBM recommends you review the Quick Start Guide, **New in this release (March 2016), First time deployment guide (FTU installation and configuration tasks)**, as well as the Planning and Configuring topics if you have not already done so. This documentation focuses on the things you will need to know for a successful installation and configuration of this product.

The **OMEGAMON XE and Tivoli Management Services on z/OS** shared documentation, and other Tivoli product documentation can be found at the IBM Knowledge Center URL listed below:

**<http://www.ibm.com/support/knowledgecenter/SSAUBV/>**

The **First time deployment guide (FTU installation and configuration tasks)** documentation can be found on the IBM Knowledge Center at:

**[http://www.ibm.com/support/knowledgecenter/SSAUBV/com.ibm.omegamon\\_share.doc\\_6.3.0.2/ftu/ftu\\_cfg\\_intro.htm](http://www.ibm.com/support/knowledgecenter/SSAUBV/com.ibm.omegamon_share.doc_6.3.0.2/ftu/ftu_cfg_intro.htm)**

If you are installing into an existing CSI zone that contains the listed FMIDs, ensure the maintenance has been installed previously or it must be installed with this product package.

HKCI310 - UA80256  
HKDS630 - UA70675 UA70678  
HKL630 - UA70676 UA70677  
HKOB730 - UA80299

**Note:** Please reference and review the HOLDDATA for PTF UA76751 for instructions on adding the CALLLIBS definitions required to install this ptf.

IBM Tivoli Monitoring V6.3.0 Fix Pack 6 is recommended for a number of APAR fixes.



Consider the following items when using shared CSI zones.

- You must specify the same high-level qualifier for the target and distribution libraries as the other products in the same zones for the configuration tool to work correctly.
- If you install a product into an existing CSI that contains a previous version of the same product, SMP/E deletes the previous version during the installation process. To maintain multiple product versions concurrently, they must be installed into separate CSI zones.
- If you install into an existing environment, you might need to remove data set references from the installation jobs to avoid errors because the data sets already exist.
- If you are installing into an existing environment that has the data sets already allocated, ensure sufficient space and directory blocks are available to support the requirement listed in the DASD tables. This might require you to reallocate some data sets to avoid x37 abends.

---

## 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of OMEGAMON Monitoring for JVM.

Please note the following points:

- If you want to install OMEGAMON Monitoring for JVM into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets. Additionally, to assist you in doing this, IBM has provided samples to help you create an SMP/E environment at the following URL:

<http://www.ibm.com/support/docview.wss?rs=660&context=SSZJDU&uid=swg21066230>

- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.

---

### 6.1 Installing OMEGAMON Monitoring for JVM

#### 6.1.1 SMP/E Considerations for Installing OMEGAMON Monitoring for JVM

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of OMEGAMON Monitoring for JVM.

#### 6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 16. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

*Figure 16. SMP/E Options Subentry Values*

Subentry	Value	Comment
DSSPACE	300,1200,1200	Use 1200 directory blocks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

### 6.1.3 SMP/E CALLLIBS Processing

OMEGAMON Monitoring for JVM uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When OMEGAMON Monitoring for JVM is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- SCEEBND2
- SCEECPP
- SCEELIB
- SCEELKED
- SCEELKEX
- SCLBSID
- SEZACMTX

**Note:** CALLLIBS uses the previous DDDEFs only to resolve the link-edit for OMEGAMON Monitoring for JVM. These data sets are not updated during the installation of OMEGAMON Monitoring for JVM.

### 6.1.4 Installation Job Generator Utility

A utility is available to generate the necessary installation jobs for this product and others that might be included in the product package deliverable. Be aware that not all products are supported at this time and maintenance might have to be installed to get the latest updates for the product table. It is recommended you use this job generation utility to create a set of jobs to install the product package when installing into an existing environment rather than using the sample jobs provided for each product.

The job generation utility is delivered in the Configuration Tool component of the Tivoli Management Services on z/OS product, which is a requisite of this product. This utility is enhanced thru the maintenance stream so there could be an issue if it is invoked from an environment without the latest maintenance. Ensure the latest maintenance is installed for the components of this product to get the latest updates for the product table.

If you are installing for the first time into a new environment and don't have an existing environment available to invoke this utility, you must use the sample jobs for the Tivoli Management Services on z/OS product and install it first. This will install the FMID containing the job generation utility and the latest maintenance. Then you can invoke the utility from the target library TKANCUS to install other products in the package.

The job generation utility can be invoked from the SMP/E target library with the low-level qualifier of TKANCUS, launch the utility by using ISPF option 6 and entering the following command.

```
ex '&gbl_target_hilev.TKANCUS'
```

Select "SMP/E-install z/OS products with Install Job Generator (JOBGEN)" from the Installation and Configuration Tool main menu.

You can use the online help available as a tutorial to become familiar with the utility and its processes.

### 6.1.4.1 Introduction to the Job Generator

The job generation utility creates a set of jobs to define a SMP/E environment (CSI and supporting data sets), allocate product libraries (target and distribution zone data sets and DDDEFS), and install the products (RECEIVE APPLY ACCEPT). You can use these jobs to create a totally new environment or to install the products into an existing CSI.

#### Processing Steps

- The jobs are generated from a series of ISPF interactive panels and ISPF file tailoring.
- The initial step is selection of the product mix. The set of products will determine any additions to the basic set of values needed to create the JCL.

#### Process Log

- One of the members of the generated job library is KCIJGLOG, which is the process log.
- This member shows the generating parameters and internal lists that were used to create the batch jobs.
- It also indicates which jobs were actually produced and need to be run. Note that the RECEIVE, APPLY, and ACCEPT jobs are always generated even if the selected products are already in the target CSI. In that case, the jobs install additional maintenance when available.

### 6.1.4.2 Product Selection

You can select one or more products from a table that will determine the set of FMIDs to install. You must select at least one product and you should always select the appropriate version of the IBM Tivoli Management Services on z/OS product (5698-A79) that is an installation requisite for this product offering. This will install the necessary FMIDs and maintenance for a new environment but also ensure any requisite maintenance will be processed when installing into an existing environment.

The selection table contains information about all of the supported products and might contain entries for products that you do not have or do not wish to install. Select only those products that are available in the package delivered and that you want to install.

### 6.1.4.3 Installing into an existing CSI

When the high-level qualifiers point to an existing environment, the job generation utility eliminates the jobs that allocate and initialize the CSI.

The job generation utility suppresses the creation of libraries that already exist in the target environment. Instead, the generator creates a job to determine whether sufficient space is available for any additional data to be installed into the libraries.

The member KCIJGANL is generated to report on the available space for each of the existing libraries that will have new data. However, KCIJGANL cannot check for the maintenance stream requirements.

The space analyzer function is very helpful in identifying data set space issues that might cause X37 abends during APPLY and ACCEPT processing.

#### 6.1.4.4 Job Generator - Update Command

The job generation utility was enhanced to allow dynamic additions to the product table. The UPDATE routine is used to obtain additional data for products that are available but not yet included in the installation job generator table, KCIDJG00.

You must have the product RELFILES available on DASD in order to run this routine and all components of the product must be available. After a successful run, the output of this routine will replace the KCIDJG00 member of the work data set. If you make multiple changes to the data member be sure to save the original member as a backup.

**Note:** Not all products qualify for inclusion in the job generator process at this time. Refer to the online help for more information about this facility.

#### 6.1.5 Sample Jobs

If you choose not to use the installation job generator utility documented in the previous section, you can use the sample jobs that were created for OMEGAMON Monitoring for JVM. This will require you to research and tailor each of the jobs accordingly.

The sample jobs provided expect a CSI to exist already. The sample installation jobs in Figure 17 are provided as part of the product to help you install OMEGAMON Monitoring for JVM.

*Figure 17. Sample Installation Jobs*

Job Name	Job Type	Description	RELFILE
KJJJ3ALO	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HKJJ530.F12
KJJJ4DDF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HKJJ530.F12
KJJJ5REC	RECEIVE	Sample RECEIVE job	IBM.HKJJ530.F12
KJJJ6BDI	MKDIR	Sample job to invoke the supplied KJJMKDIR EXEC to allocate file system paths	IBM.HKJJ530.F12
KJJJ7APP	APPLY	Sample APPLY job	IBM.HKJJ530.F12
KJJJ8ACC	ACCEPT	Sample ACCEPT job	IBM.HKJJ530.F12

The installation of OMEGAMON Monitoring for JVM requires the Tivoli Enterprise Monitoring Server on z/OS be installed in the CSI. Refer to the *Program Directory for IBM Tivoli Management Services on z/OS* (GI11-4105) for installation instructions of its product components.

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.8, “Perform SMP/E RECEIVE” on page 27) then copy the jobs from the relfiles to a work data set for editing and submission. See Figure 17 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//STEP1 EXEC PGM=IEBCOPY,REGION=4M
//SYSPRINT DD SYSOUT=*
//TAPEIN DD DSN=IBM.HKJJ530.F12,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HKJJ530.F12,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(10,2,5))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
SELECT MEMBER=(KJJJ3ALO,KJJJ4DDF,KJJJ5REC,KJJJ6BDI,KJJJ7APP)
SELECT MEMBER=(KJJJ8ACC)
/*
```

See the following information to update the statements in the previous sample:

**TAPEIN:**

**tunit** is the unit value that matches the product package.

**volser** is the volume serial that matches the product package.

**x** is the tape file number that indicates the location of the data set name on the tape.

See the documentation that is provided by CBPDO for the location of IBM.HKJJ530.F12 on the tape.

**FILEIN:**

**filevol** is the volume serial of the DASD device where the downloaded files reside.

**OUT:**

**jcl-library-name** is the name of the output data set where the sample jobs are stored.

**dasdvol** is the volume serial of the DASD device where the output data set resides.

**SYSIN:**

**xxxxIN** is either TAPEIN or FILEIN depending on your input DD statement.

## 6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit the generated job KCIJGALO to allocate the SMP/E target and distribution libraries for OMEGAMON Monitoring for JVM.

If you are not using the generated allocation job, select the sample job KJJJ3ALO. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information. Consider the following issues before submitting the job.

- If you are installing into an existing environment, you might have to remove lines for data sets that already exist.
- If you are installing into an existing environment that has the data sets already allocated, ensure sufficient space and directory blocks are available to support the requirement listed in the DASD tables. This might require you to reallocate some data sets to avoid x37 abends.

**Expected Return Codes and Messages: 0**

## 6.1.7 Create DDDEF Entries

Edit and submit the generated job KCIJGDDF to create DDDEF entries for the SMP/E target and distribution libraries for OMEGAMON Monitoring for JVM.

If you are not using the generated job, select the sample job KJJJ4DDF. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information. If you are installing into an existing environment, you might have to remove lines for data sets that already exist.

**Expected Return Codes and Messages: 0**

## 6.1.8 Perform SMP/E RECEIVE

If you have obtained OMEGAMON Monitoring for JVM as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the OMEGAMON Monitoring for JVM FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit the generated job KCIJGREC or the sample job KJJJ5REC to perform the SMP/E RECEIVE for OMEGAMON Monitoring for JVM. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages: 0**

## 6.1.9 Allocate, create and mount ZFS Files (Optional)

This job allocates, creates a mountpoint, and mounts zFS data sets.

You can choose to create a new file system for this product installation by copying, editing, and submitting the JCL below. Add a job card and change all occurrences of the following lowercase variables to values suitable for your installation before submitting.

```
#zfsdsn - The dsname of your zFS directory.
#volser - The volume serial number for the DASD that will contain
          the new file system.
#zfsdir - The zFS directory where this product will be installed.
          The recommended mountpoint is /-PathPrefix-/usr/lpp/kan.
```

The zFS directory tree is case sensitive. Ensure #zfsdir is an absolute path name and begins with a slash (/).

```

//*****
//* ALLOCZ This step allocates your zFS data set.          *
//*****
//ALLOCZ EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
    DEFINE CLUSTER(NAME(#zfsdsn) -
    LINEAR CYLINDERS(15 5) SHAREOPTIONS(3) VOLUMES(#volser))
/*
//*****
//* FORMAT This step formats your newly created zFS data set. *
//* When executing the IOEAGFMT program you must have      *
//* superuser authority (UID 0) or READ authority to the    *
//* SUPERUSER.FILESYS.PFCTL profile in the UNIXPRIV class. *
//*****
//FORMAT EXEC PGM=IOEAGFMT,REGION=0M,
// PARM=(' -aggregate #zfsdsn -compat')
//STEPLIB DD DSN=IOE.SIOELMOD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//*****
//* MAKEDIR This step creates the directory path for your  *
//* Mount Point                                           *
//*****
//MAKEDIR EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
    PROFILE WTPMSG MSGID
    MKDIR '#zfsdir' MODE(7,5,5)
    PROFILE
/*
//*****
//* MOUNT This step MOUNTS your newly created zFS File System *
//* using the AGGRGROW parameter.                          *
//*****
//MOUNT EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSTSIN DD *
    MOUNT FILESYSTEM('#zfsdsn') +
    TYPE(ZFS) MODE(RDWR) PARM('AGGRGROW') +
    MOUNTPOINT('#zfsdir')
/*

```

### Expected Return Codes and Messages: 0



## 6.1.10 Allocate File System Paths

Edit and submit the generated job KCIJGBDI to define the file system paths.

If you are not using the generated job, select the sample job KJJJ6BDI. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information. Consider the following items before submitting the job.

### Important Notes:

1. The Relfile containing the KJMKDIR exec must be available prior to running this job. The Relfile needed is HKJJ530.F12 and should be available after running the Receive job.
2. This job must be run before the Apply job.
3. This job must be run by a user ID that has superuser authority (UID=0) or read access to resource BPX.SUPERUSER under the FACILITY profile and superuser authority must be activated.
4. The user ID must have read access to the BPX.FILEATTR.APF resource profile in the RACF FACILITY class.
5. If you plan to create a new file system for this product, ensure it is created before submitting this job to define file system paths.
6. The file system must be in read/write mode before this job is run.
7. If you create a new file system for OMEGAMON Monitoring for JVM, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

### Expected Return Codes and Messages: 0

## 6.1.11 Perform SMP/E APPLY

Ensure that you have the latest HOLDDATA, then edit and submit the generated job KCIJGAPP to perform an SMP/E APPLY CHECK for OMEGAMON Monitoring for JVM.

If you are not using the generated job, select the sample job KJJJ7APP to perform an SMP/E APPLY CHECK. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information.

### Important Notes:

1. The APPLY job must be run by a user ID that has superuser authority (UID=0) or read access to resource BPX.SUPERUSER under the FACILITY profile and superuser authority must be activated.
2. The user ID must also have read access to the BPX.FILEATTR.APF resource profile in the RACF FACILITY class. This is required for the script to execute successfully and maintain the APF-authorized attributes for all executables and DLLs during unpax.
3. The file system must be in read/write mode before this job is run.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holddata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here are sample APPLY commands:

1. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDS in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

2. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
```

..any other parameters documented in the program directory

This method is quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDDs during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

### Expected Return Codes and Messages from APPLY CHECK: 0

After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

**Note:** The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

If the BYPASS operand is not included in the control statement when processing a PTF with a ++HOLD statement, the job will get a return code of 12 and the following message.

```
GIM30206E command PROCESSING FAILED FOR SYSMOD sysmod.  
        HOLD REASON IDS WERE NOT RESOLVED.
```

### Expected Return Codes and Messages from APPLY: 4

You can receive many of the following messages depending on your environment. These messages can be ignored, because they will not affect product execution.

```
GIM23913W LINK-EDIT PROCESSING FOR SYSMOD aaaaaaa  
        WAS SUCCESSFUL FOR MODULE bbbbbbbb IN  
        LMOD cccccccc IN THE dddddddd LIBRARY. THE  
        RETURN CODE WAS ee. DATE yy.ddd -- TIME  
        hh:mm:ss -- SEQUENCE NUMBER nnnnnn --  
        SYSPRINT FILE ffffffff.
```

```
IEW2454W SYMBOL symbo1 UNRESOLVED.NO AUTOCALL (NCAL) SPECIFIED.
```

Figure 18 contains a list of elements that might be marked as not selected during the APPLY and ACCEPT processes. This might occur because a VERSION parameter was supplied in an FMID indicating that it contained a higher level version of the same element provided by another FMID being processed at the same time. The higher version element is selected for processing and the lower version is not selected for processing. It might also occur because maintenance is being installed at the same time as the FMIDs.

<i>Figure 18 (Page 1 of 4). SMP/E Elements Not Selected</i>					
KCADEVTO	KCAOSYS0	KCAUCBS0	KCCDGN	KCCENV	KCCIDC

Figure 18 (Page 2 of 4). SMP/E Elements Not Selected

KCCMSG	KCCRTR	KCCTAB	KCCTDS	KCCTDT	KCCTIM
KCCTRC	KCCUCB4	KCCVCT	KCNCFINP	KCNCPYRM	KCNMAINM
KCNUTLIM	KEBDUMMY	KEBEPLG0	KEBFINT0	KEBFPAR0	KEBFSCR0
KEBGTID0	KEBICPW0	KEBINIT	KEBLNKA0	KEBLNKC0	KEBMSGF0
KEBMXA14	KEBNVCR0	KEBNVDL0	KEBNVEA0	KEBNVIQ0	KEBNVOPO
KEBNVSU0	KEBNVUD0	KEBPRFE0	KEBROPNO	KEBSMF14	KEBSPFD0
KEBSTAE4	KEBSTAK0	KEBTSO0	KEBVMC0	KEBWKGT0	KEBWKPT0
KEBZSB10	KEB132F0	KEB2ISPF	KIABGMN	KIACARE	KIACKPG5
KIACMLK5	KIACPUW5	KIADPGN5	KIADWCL5	KIAENQW5	KIAHSKP5
KIAIAFM	KIAIAJ25	KIAIAMD	KIAIANL5	KIAIANZ	KIAMDCL5
KIAMDIN5	KIAMNTP0	KIAMSEL0	KIAPGSW5	KIAQIOW5	KIARCOL5
KIARECD5	KIARECV5	KIARSMS5	KIASORT0	KIASRMD5	KOB\$VERT
KOBABOUT	KOBACMDS	KOBAFF01	KOBAG2	KOBBASEM	KOBBCM1M
KOBBLOGM	KOBBMSGM	KOBBR##M	KOBCALLM	KOBCATTC	KOBCBLK\$
KOBCBLK@	KOBCBLKQ	KOBCENV\$	KOBCENV@	KOBCENVG	KOBCENVV
KOBCFGAP	KOBCIDSM	KOBCIFCM	KOBCIFEM	KOBCIGCM	KOBCIGEM
KOBCIGLM	KOBCIAR	KOBCIIDR	KOBCIIPM	KOBCIIRR	KOBCIITM
KOBCIIUM	KOBCIOBE	KOBCIOST	KOBCIPRR	KOBCIROM	KOBCISDR
KOBCISRM	KOBCITRM	KOBCJUMP	KOBCLOCK	KOBCMAP\$	KOBCMAP@
KOBCMAPI	KOBCMDDM	KOBCMDVM	KOBCRACF	KOBCSART	KOBCSOC\$
KOBCSOC@	KOBCSOCK	KOBCSTIO	KOBCSTLB	KOBCSTRN	KOBCTHR\$
KOBCTHR@	KOBCTHRD	KOBCTIME	KOBCTRAC	KOBCTREE	KOBCTYPE
KOBCUA	KOBCULKS	KOBCUNIS	KOBCUXIO	KOBCVSTG	KOBCWTOL
KOBCZDIO	KOBDATA1	KOBDELFM	KOBDDEV#T	KOBDFMTM	KOBDIR#T
KOBDSPCT	KOBDSQZM	KOBDSSYS	KOBENUS	KOBENV#T	KOBESAIS
KOBEXCDM	KOBGATW0	KOBGDFNM	KOBGWCND	KOBGWCV\$	KOBGWCV#
KOBGWCV@	KOBGWCVA	KOBGWLPA	KOBGWOBV	KOBGWRE\$	KOBGWRE@
KOBGWREG	KOBHASH1	KOBHBCOL	KOBHBGET	KOBHBMSL	KOBHBTPO
KOBHISN1	KOBHISN2	KOBHISN4	KOBHISTC	KOBHLAUT	KOBHLCMD
KOBHLICO	KOBHLREF	KOBHTTP\$	KOBHTTP#	KOBHTTP@	KOBHTTPL
KOBHTTTPS	KOBHTTTPW	KOBHUBCK	KOBHUBIN	KOBHUBPR	KOBHUBS
KOBHUB07	KOBH0012	KOBICMDM	KOBICM1M	KOBICM2M	KOBICM3M
KOBILCSM	KOBILC1M	KOBINDEX	KOBINITM	KOBINPWM	KOBINT#M

Figure 18 (Page 3 of 4). SMP/E Elements Not Selected

KOBINTXT	KOBINT1M	KOBINT2T	KOBIPRFM	KOBIPROM	KOBISSSM
KOBIVCMM	KOBJAP0	KOBJCA0	KOBJCC0	KOBJCD0	KOBJCG0
KOBJCI0	KOBJCM0	KOBJCR0	KOBJCT0	KOBJCW0	KOBJCX0
KOBJLG0	KOBJMC0	KOBJMP0	KOBJMS0	KOBJMT0	KOBJJOIN1
KOBJ640	KOBLEXCM	KOBLGINI	KOBLGSND	KOBLGSRV	KOBLGTBL
KOBLGWTO	KOBLISTN	KOBLOFLT	KOBLOGCM	KOBLOG10	KOBM5IN1
KOBOBVA\$	KOBOBVA@	KOBOBVAP	KOBODCOL	KOBODENM	KOBODI
KOBODIL\$	KOBODIL@	KOBODILD	KOBODISC	KOBODUTL	KOBOMIOM
KOBO4H01	KOBO4SRV	KOBPARS	KOBPDEV	KOBPDHST	KOBPDSD
KOBPDSI0	KOBPDSS	KOBPEEKT	KOBPPRFM	KOBPRFAU	KOBPRFCL
KOBPRFDT	KOBPRFHB	KOBPRFHS	KOBPRFIP	KOBPRFIS	KOBPRFSS
KOBPRFTB	KOBPRFWN	KOBPR2TB	KOBQRYEX	KOBREGAP	KOBRES01
KOBRGDRA	KOBRMFAR	KOBRMFBR	KOBRMFCR	KOBRMF5X	KOBRMF6S
KOBRMF7S	KOBRMF8R	KOBRMF9R	KOBROUTM	KOBRRUI\$	KOBRRUI@
KOBRRUIA	KOBRRWK\$	KOBRRWK@	KOBRRWKR	KOBRSMDGR	KOBRSMDG1
KOBXRFM	KOBXGEN	KOBXGFC	KOBXGM	KOBXGNV	KOBXPDR
KOBXQRY	KOBZFM0	KOBZFNL	KOBZGDM	KOBZGDR	KOBZGFC
KOBZGM0	KOBZGNV	KOBZHZST	KOBZLDR	KOBZPDR	KOBSELLM
KOBSEPA	KOBSEUPM	KOBSHART	KOBSITA	KOBSITAL	KOBSITD
KOBSITDB	KOBSITD1	KOBSITD2	KOBSITD3	KOBSITD4	KOBSITEI
KOBSITI	KOBSITMG	KOBSITMN	KOBSITP	KOBSITS	KOBSITST
KOBSITT1	KOBSITT2	KOBSIT00	KOBSIT01	KOBSIT02	KOBSIT03
KOBSPATM	KOBSPAUM	KOBSPF#M	KOBSPSWM	KOBSPVTM	KOBSRBDM
KOBSRT01	KOBSTART	KOBSTBLD	KOBSTUBM	KOB SUB#M	KOB SUBET
KOB SUBXM	KOB SUB1M	KOB SUB2M	KOB SUB3M	KOB SUB4T	KOBTCBFA
KOBTCCL\$	KOBTCCLA	KOBTERMM	KOBTHRMT	KOBTHRSH	KOBTKACT
KOBTKJLX	KOBTKSTG	KOBTKTCB	KOBTSO#M	KOBUICM0	KOBUICS0
KOBUIEP0	KOBUIFD0	KOBUIGD0	KOBUIGL0	KOBUIGO0	KOBUIGP0
KOBUIGS0	KOBUIHL0	KOBUIHS0	KOBUILG0	KOBUILO0	KOBUIMC0
KOBUIMG0	KOBUIML0	KOBUIM10	KOBUIM20	KOBUIM30	KOBUIM40
KOBUIM50	KOBUIM60	KOBUIM70	KOBUIM80	KOBUIIN0	KOBUINTM
KOBUIINV0	KOBUIPA0	KOBUIPS0	KOBUIPT0	KOBUIISC0	KOBUISD0
KOBUITK0	KOBUITR0	KOBUIVI0	KOBUIVS0	KOBUIWG0	KOBUPFCM

<i>Figure 18 (Page 4 of 4). SMP/E Elements Not Selected</i>					
KOBUPFDM	KOBUPFIM	KOBUPFSM	KOBUSERD	KOBUSERS	KOBUTSET
KOBVDRVM	KOBVEXIM	KOBVGETM	KOBVINIM	KOBVLOGM	KOBVPUTM
KOBVTERM	KOBVTM1M	KOBVTSRM	KOBVUTLM	KOBVZAPM	KOBXACBM
KOBXASBT	KOBXGSWM	KOBXMSDM	KOBXMZPM	KOB3270S	

After installing new function, you should perform two operations:

1. Create a backup of the updated data sets, including any SMP/E data sets affected, in case something happens to the data sets during the next phase.
2. Do some testing before putting the new function into production.

After you are satisfied that an applied SYSMOD has performed reliably in your target system, you can install it in your distribution libraries using the ACCEPT process.

Another good practice is to accept most SYSMODs, particularly FMIDs, before performing another APPLY process. This provides you the ability to use the RESTORE process of SMP/E and to support the scenario where SMP/E needs to create a new load module from the distribution libraries during the APPLY process.

## 6.1.12 Perform SMP/E ACCEPT

Edit and submit the generated job KCIJGACC to perform an SMP/E ACCEPT CHECK for OMEGAMON Monitoring for JVM.

If you are not using the generated job, select the sample job KJJJ8ACC to perform an SMP/E ACCEPT CHECK. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

### Expected Return Codes and Messages from ACCEPT CHECK: 0

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

**Note:** The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

If the BYPASS operand is not included in the control statement when processing a PTF with a ++HOLD statement, the job will get a return code of 12 and the following message.

```
GIM30206E command PROCESSING FAILED FOR SYSMOD sysmod.  
        HOLD REASON IDS WERE NOT RESOLVED.
```

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

### **Expected Return Codes and Messages from ACCEPT: 4**

Figure 18 on page 31 contains a list of elements that might be marked as not selected during the APPLY and ACCEPT processes. This might occur because a VERSION parameter was supplied in an FMID indicating that it contained a higher level version of the same element provided by another FMID being processed at the same time. The higher version element is selected for processing and the lower version is not selected for processing. It might also occur because maintenance is being installed at the same time as the FMIDs.

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## **6.2 Activating OMEGAMON Monitoring for JVM**

Prior to activating OMEGAMON Monitoring for JVM, IBM recommends you review the Quick Start Guide, **First time deployment guide (FTU installation and configuration tasks)**, as well as the Planning and Configuring topics if you have not already done so. This documentation focuses on the things you will need to know for a successful installation and configuration of this product.

The *Overview and Configuring* documentation contains the step-by-step procedures to activate the functions of OMEGAMON Monitoring for JVM.

This documentation can be found online at:

[http://www.ibm.com/support/knowledgecenter/SS2JNN\\_5.3.0/com.ibm.omegamon\\_xezos.doc\\_5.3.0/jvm/jvm\\_intro.htm](http://www.ibm.com/support/knowledgecenter/SS2JNN_5.3.0/com.ibm.omegamon_xezos.doc_5.3.0/jvm/jvm_intro.htm)

### **6.2.1 File System Execution**

If you mount the file system in which you have installed OMEGAMON Monitoring for JVM in read-only mode during execution, then you do not have to take further actions to activate OMEGAMON Monitoring for JVM.

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## 7.0 Notices

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APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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Printed in USA

G113-4153-00

